

سكنا من الاصل

Chancellor sees no recovery before 1976

Mr Healey, Chancellor of the Exchequer, and Mr Heath, Leader of the Opposition, made gloomy prognostications on the economy in debate in the Commons last night.

November Budget. He did not think the tide would turn before the end of next year.

Mr Heath fears catastrophe

Hugh Noyes Parliamentary Correspondent

Mr Healey, Chancellor of the Exchequer, and Mr Heath, Leader of the Opposition, made gloomy prognostications on the economy in debate in the Commons last night.

In the five weeks since the Budget debate, the world was in a recession and the question was whether it would move from a recession into a slump.

normal mechanisms of production, finance, and saving. The world was in a recession and the question was whether it would move from a recession into a slump.

Soviet Union renounces 'trade for emigration'

Moscow, Dec 18.—The Soviet Union today renounced any trade agreement with the United States that binds Moscow to ease emigration.

The Soviet Union "flatly rejected as unacceptable... attempts to interfere in internal affairs that are entirely the concern of the Soviet state and no one else."

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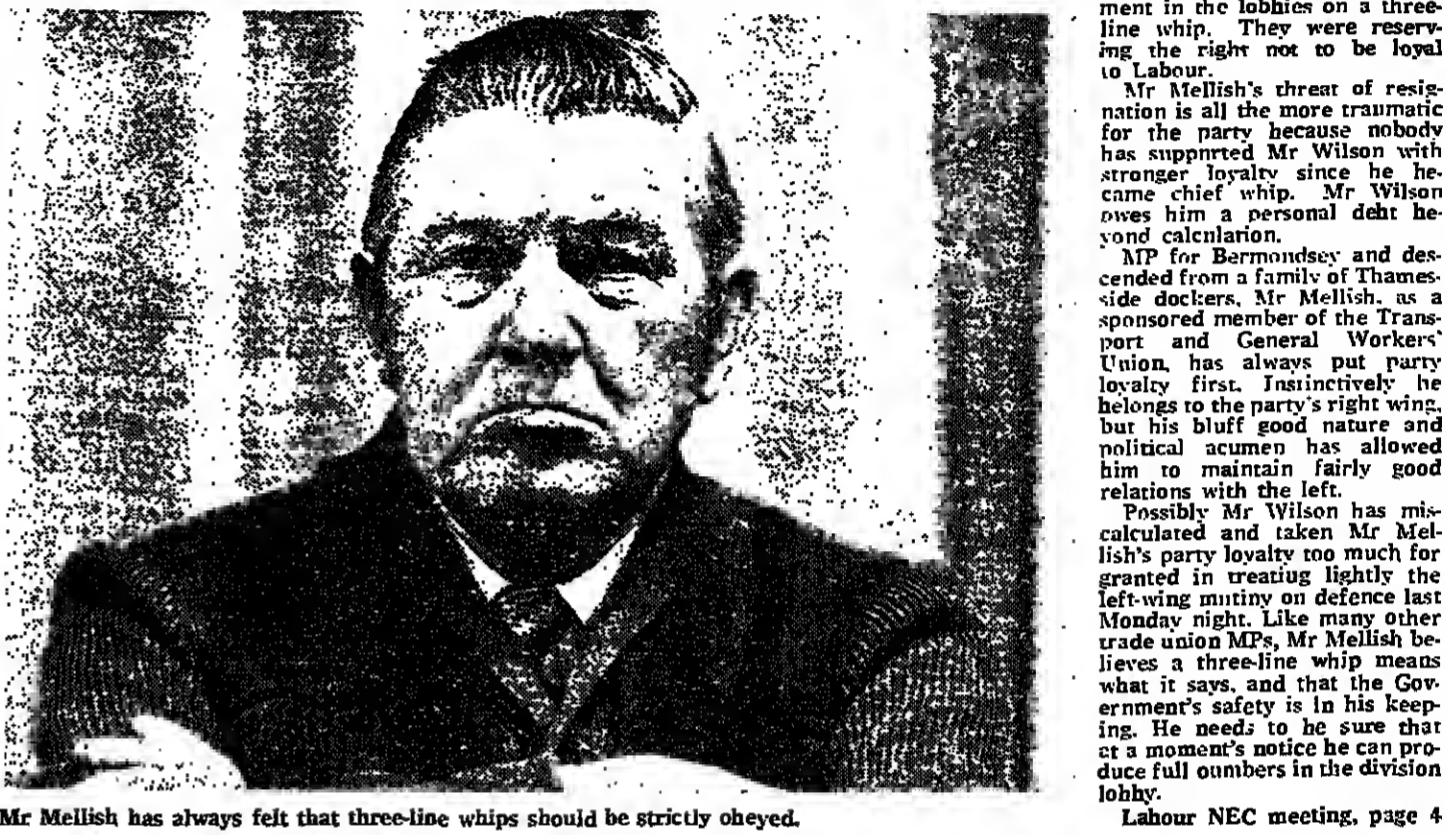
Mr Mellish withdraws resignation threat after clash on backbench defence revolt

By David Wood Political Editor Mr Robert Mellish, government chief whip and a member of the Cabinet since the election, last night withdrew a letter of resignation which he sent to the Prime Minister on Tuesday night.

loyalty to the Government on three-line whips. Otherwise it is easy to conclude that the ministers they serve have doubts about particular aspects of government policy.

there would be no disciplinary sanctions. Mr Mellish, who became Labour Chief Whip in 1969 and apart from a short interval as Minister of Public Buildings and Works, has continued in the exacting post ever since.

to the Prime Minister giving him an opportunity to make an alteration in the position of chief whip. Mellish has had a fairly tough six years, and in the past six weeks alone has been increased difficulty with various members of the Parliamentary Labour Party.



Mr Mellish has always felt that three-line whips should be strictly obeyed.

Labour NEC meeting, page 4

OECD warns West of 'ugly rout'

Peter Jay Economics Editor

Dec. 18 The revival of the political economy of the western world, based on the formula of pros and cons, hangs in the air.

of North America, Western Europe, Japan and Australasia, the commentary of the international team of economists in the Economic Outlook provides the most authoritative available synopsis of world economic trends.

entailing a larger margin of unused resources than has been seen in the postwar period, with unemployment rising throughout the period and into 1976.

£85m rescue move for Crown Agents

By Maurice Corica Industrial Editor

An £85m rescue operation is being mounted by the Government to safeguard the banking operations of the Crown Agents organization, whose proud boast for more than a hundred years has been that it makes no call on public funds.

Mr Whitlam approves of Britain staying in

From Roger Berthoud Brussels, Dec 18

Mr Whitlam, the Prime Minister of Australia, today finally buried the idea lingering among British anti-market forces that his country would welcome Britain's withdrawal from the EEC.

Severe sentences for Bordeaux wine fraud reflect damage to the trade

From Charles Hargrove Paris, Dec 18

Pierre Bert, the central figure in the Bordeaux wine fraud case, was today sentenced to the maximum penalty allowed by French law, a year's imprisonment and a fine of 27,000 francs (about £2,500).

British Leyland advisory firm named

Benn, Secretary of State

Industry, announced last night the membership of the advisory firm to advise the Government on the British Leyland situation.

Petrol pump closures

Thousands of petrol stations are likely to be shut today because many have been supplied with fuel at the increased price but are not allowed to charge the new retail price until tomorrow.

US refused to sit on aid committee

The United States has refused to sit on a new United Nations committee for distributing aid, decided on at a special General Assembly session earlier this year.

Pickets plea rejected

Mr Wilson refused to intervene in the case of the jailed Shrewsbury pickets when a TUC delegation, led by Mr Len Murray, the general secretary, called on him yesterday to urge him to secure their release by Christmas.

Raid into Lebanon

Israeli troops raided a village six miles inside Lebanon yesterday. They blew up houses which they said were used by terrorists and took some prisoners.

Sugar plan starts

The EEC scheme to provide cheap sugar for Britain got under way last night when the European Community approved imports of 102,000 tons.

Bristol bomb blasts hurt 17

Seventeen people were hurt, seriously, when two bombs exploded in the centre of Bristol last night. Hundreds were treated from flats, restaurants and a ballroom after receiving warnings of further explosions.

Appeal Court lifts book restriction

A girl aged 14 may be taken out of Britain in the next 48 hours to prevent her from knowing that her father is described in a book to be published next week as "depraved".

Motorail fares

British Rail has asked the Price Commission to allow a 30 per cent increase in Motorail fares next year. Even so, another 10,000 bookings for the service, which carries passengers and their cars on the same train, are expected in 1975 as petrol prices rise.

Chess

Chess 2-4

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Overseas News 2-4

Appointments 2-4

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Business 17-23

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Crossword 2-4

Cricket 2-4

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Features, pages 7 and 14

Vladimir Komlev explores the possibilities for military detente in Europe.

Bernard Levin: A case of the less said the better; Peter Stafford on the new mood of militancy at the UN.

Leader page, 15

Letters: The economy from Sir Alec Cairncross and others; kidney transplants from Professor H. E. de Wardener and the Secretary of the Medical Defence Union; Britain and the Middle East from Dr M. R. Mebdil and others.

Leading articles: Wage inflation; Mr Whitlam's visit; Bordeaux wine trial.

Books, page 8

TV & Radio 25

The Secret Life of Plants by Paul Theroux on short stories by V. S. Pritchett and Roald Dahl.

Sport, pages 12 and 13

Racing: Spongers' names allowed in big race titles; Folkestone and Southwell programmes; John Woodcock reports England's reaction to Test defeat.

Business news, pages 17-23

Stock market: Both equities and gilts held up well yesterday. The FT index added 1.9 higher at 161.1.

Peter Jay Thursday column: Disinflation without tears—how to stop prices rising without bankruptcies and unemployment, and how doomsday may be postponed.

Advertisement for British Airways Superflights, featuring a picture of a pilot and text: 'Gulf Superflights. To Bahrain, Abu Dhabi, Doha, Dhahran, Dubai, Muscat and Kuwait. The only direct services to all these cities. Details from your travel agent. British Airways. We'll take more care of you.'

Table with 2 columns: Item, Price. Includes items like 'Seas selling prices', '1 lb. Sugar', '2 lb. Sugar', etc.

Table with 2 columns: Item, Price. Includes items like 'Chess', 'Crossword', 'Cricket', etc.

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Table with 2 columns: Item, Price. Includes items like 'Sport', 'TV & Radio', 'The Secret Life of Plants', etc.

HOME NEWS

Many petrol retailers shutting today over price increase

By Edward Townsend Business News Staff Ten thousand filling stations in Britain which have taken delivery of petrol at the increased price may be shut today. They say they cannot afford to sell it until the record increase in retail prices, which will add at least 10p a gallon to the price of four-star fuel, comes into effect at midnight. Many closed early yesterday. The Petroleum Retailers' Association sent a telegram to Mr Varley, Secretary of State for Energy, criticizing him for announcing increases in wholesale petrol prices on Tuesday but delaying the retail price rise. Mr Geoffrey Atkinson, general secretary of the association, said garages would inevitably be accused of hoarding petrol, but they could not be expected to sell at a loss. A third of all garages, about 10,000, might be closed today. The telegram accused Mr Varley of misleading MPs, the public and the garage trade by describing the increase in wholesale petrol prices as about 7p instead of 7.35p, the difference amounting to about £16m a year to the oil companies. The minister had also misled the public, it said, by stating that the retail price rise should not exceed 10p a gallon. The association has said that with the abolition of maximum price control a gallon of four-star

Police raid houses after London bombings

Detectives raided five houses yesterday in the wake of the three bomb explosions in London on Tuesday in which a man was killed. The detectives, members of the bomb squad, questioned some people but no arrests were made. Senior officials of the Post Office, led by Sir William Ryland, the chairman, visited the Bloomsbury exchange in Chancery Street, off Tottenham Court Road, where an explosion killed Mr George Arthur, a telephone operator, aged 35, of Kingsmead Road, Tulse Hill, south-west London. Sir William said: "I am shocked and horrified that a Post Office man going about his duty serving the public lost his life in the most callous circumstances." Mr Gregor Mackenzie, an under-secretary of state at the Department of Industry, who has responsibility for Post Office affairs, visited the other two exchanges involved in the bombings, at New Compton Street, Soho, and between Drayton Avenue and Sloane Avenue, Chelsea. He said he was saddened by the mindless destruction. The TUC General Council expressed its shock and asked Mr Tom Jackson, general secretary of the Union of Post Office Workers, to convey its sympathy to the victims. It also expressed its admiration for the courage of post workers.



Damage being examined after the fatal bombing on Tuesday night at the Bloomsbury telephone exchange in Chancery Street.

Treatment of boy like Belsen, judge says

Treatment of a boy aged 2½ by the mother and two men would not have done discredit to Belsen or Auschwitz, Judge McLellan said at Salisbury Crown Court yesterday. John Robert Brading, aged 28, his brother, William James Brading, aged 33, and Barbara Jean Gavin, aged 23, pleaded guilty to ill treating Miss Gavin's child, causing suffering, and assaulting him, causing bodily harm. The brothers were each sentenced to seven years' imprisonment and the mother to three years. The judge said the offences occurred under the nose of the authorities appointed to superintend the welfare of helpless children and might never have come to light but for the initiative and intervention of a Salisbury district councillor, Miss Susan Greig. Mr Mark Dyer, for the prosecution, said the child was struck on the face and body, made to eat his own excreta, forced to stand in a bucket of cold water, and locked in a lavatory for long periods. The offences occurred at a farmhouse at Swallowcliffe, near Salisbury, where the three defendants were living. Miss Gavin acting as William Brading's housekeeper after his wife had left him.

Council in pay dispute gives minister rebuff

By Christopher Warman Local Government Correspondent Barnet Borough Council's decision to pay its chief officers salaries above the nationally agreed scales has brought a rebuff from Mr Silkin, Minister for Planning and Local Government. In a letter to Councillor Andrew Pares, the leader of the council, Mr Silkin asked for full reconsideration, and the council will discuss the issue tonight. The controversy arose after Mr Silkin had been told of the proposed increases in November. He asked the council for details, saying that he considered them provocative. After receiving the reply, Mr Silkin wrote that he was not persuaded by the arguments put forward. Mr Silkin said the maximum rate for the chief executive, £12,500, would exceed the national maximum by £395. The proposed salary for the director of financial services would exceed the national agreement by up to £1,517. As you know, my position in this is merely to act on behalf of the public we all serve. At a time when the central government is appealing for moderation and local government is asked to peg spending to inescapable commitments, I could not well support proposals which your council is putting forward. As the minister responsible for local government my only power in this matter is to express my

Library Association opposes method of paying authors

By Our Arts Reporter In a statement supporting the claims of authors to reasonable financial rewards, the Library Association today declares its opposition to the proposed Public Lending Right as a proper remedy for their troubles. "The pernicious full-time author is not going to find comfort and prosperity in the funds provided by a Public Lending Right," the association says. It is one of the bodies being consulted by the Government on the method of PLR to be adopted when legislation is introduced next year. "What will happen is that the author whose works are in considerable demand, and who is already probably in receipt of a quite generous income, will receive the lion's share, and the author of the book in lesser demand, however deserving and poorly paid he may be, will receive an amount that is not likely to make any marked dif-

School pay report to appear on Friday

By Our Education Correspondent The Houghton report on teachers' pay will be published on Friday, Mr Prentice, Secretary of State for Education and Science, said in the Commons yesterday. It was delivered to him on Tuesday. Lord Houghton is expected to recommend increases costing about £400m. Those at the top of the profession would get much more than junior teachers. The department is unlikely to disclose the average increase, but a total cost of £400m would give an average of about 30 per cent. Other education news, page 3

Belfast peace clergy see Secretary of State

From Stewart Tendler Belfast Four Protestant church leaders from Belfast who met the Provisional IRA last week visited Westminster yesterday to see Mr Rees, Secretary of State for Northern Ireland. Their visit caused further speculation about a possible ceasefire in the province. The meeting at the Commons was arranged last week, supposedly as part of the peace initiative by the Irish churches. But it was requested after the clergyman had talked to senior Provisional IRA members at Feakle, co. Clare. At that time the clergyman was waiting to hear a decision by the Provisionals' army council about the church leaders' ideas for achieving a ceasefire. The army council, which has eight members, is believed to have met secretly on Tuesday. The clergyman had said that they would be prepared to take messages between the Government and the Provisionals and that they would talk with Mr Rees before making any public announcement. Relatives at the homes of the church leaders indicated yesterday that their visit to London was unexpected. The clergyman was the Rev. Dr Butler; Mr Stanley Worral, chairman of the New Ulster Movement; Dr A. J. Weir, clerk of the General Assembly of the Presbyterian Church in Ireland; and the Rev. T. Gallagher, former President of the Conference of the Methodist Church in Ireland. None of the clergyman who attended the meeting at Feakle

British Rail seeks 30% rise in car-carrying rate

By Michael Bailly Transport Correspondent Fares on British Rail's Motorail car-carrying services are to go up by around 30 per cent next year, if the Price Commission agrees. But British Rail expects another record year for the service with an extra 10,000 places in spite of the proposed fare increase, because of higher petrol prices. Examples of likely fare rises are (for driver and car, one way): London to Stirling overnight (excluding sleeper) from £23.50 to £30.50; London to Newton Abbot daytime service, £19.40 to £23. Over the three-year period, 1972-74, Motorail traffic has risen from 68,000 to 90,000 at a time when fares have gone up by only 5 per cent.

Gas engine cleared of bribe charge

A Gas Council engineer cleared at the Central Criminal Court yesterday of accepting bribes from a firm to supply a £2.5m North Sea gas pipeline contract. Russell Emmony, aged 55, Heron Cottage, London R. Bracknell, Berkshire, was accused of corruptly accepting a £206 duction on a debt to Pipe Construction Ltd, of Hitchin, the purchase of a car, as an inducement to show favour. It was alleged that the Gas Council from July to September 1974. At the close of the prosecution, Judge Rigg, directed the jury to acquit Emmony not guilty of charge. He said there was evidence that Mr Emmony aware he was receiving the duction from Pipeline, it could not be said that he was corruptly accepted it. Mr David Tudor Price, the prosecution, said that Emmony had told the jury that he wanted to buy a second-hand car, but that because of a strike he could not get it. The managing director of Pipeline had offered to the car for him through company at a discount. Mr Emmony had said that quite legal, as he bought his previous car through the West Midlands Gas Board and got a discount. However, Mr Price said, Mr Alfred Pipeline's managing director had not been able to obtain expected discount, and so the difference between the £200 was said to be a trifling sum his company. Mr Joy, aged 53, of Oak Drive, Welwyn Garden City, still faces a charge of corruptly giving the reduction to Emmony. The case adjourned until today.

People urged to work for others

By A Staff Reporter A year's public service by every citizen, a contribution of time, not money, was suggested by Professor Ralph Dahrendorf, Director of the London School of Economics, when he gave the final Reith Lecture on BBC Radio 4 last night. Professor Dahrendorf, whose subject has been "The New Liberty—survival and justice in a changing world", said: "We need people to do the things which we need in order to improve our lives and increase our life chances. This may well be a task to which everybody in a mature society should make a personal contribution; a contribution of time, not of money."

Admiralty board quashes Wren case conviction

A formal naval lieutenant who was severely reprimanded in August for assaulting and unlawfully imprisoning a Wren has had the conviction quashed. His sentence was annulled by the Admiralty Board of the Defence Council. Lieutenant David John Wilkes, of Burton-in-Wirral, Cheshire, who has left the Navy, was serving in HMS Fishguard, a training establishment at Torpoint, Cornwall, when he was brought before a Devonport court martial. The prosecution said that during a drinking evening the lieutenant struck Wren Karen Driver and dragged her away to prevent her from entering a flat. A petition against conviction was submitted on the ground that the Judge Advocate, Commander David Clayton, wrongly advised that before the accused could rely on a defence provided by a section of the Criminal Law Act 1967 the court had to decide that a crime was about to be committed. The Judge Advocate was also said to have failed adequately at all to advise the court: that it would have been a good defence that the accused used reasonable force in the honest belief that he was preventing crime, whether or not any crime was about to be committed.

Night talks on Fleet Street pay dispute

By Our Labour Staff Talks were going on last night to try to resolve the pay dispute between national newspaper proprietors and the National Graphical Association, representing printing craftsmen. Both sides met officers of the Conciliation and Arbitration Service, but after eight hours they had not come together. Lord Goodman, chairman of the Newspaper Publishers Association, joined the talks at 4.30 pm, but left after two hours saying he would return. Members of the NGA, using guerrilla tactics, are disrupting the production of Fleet Street newspapers. The London Evening Standard lost 275,000 copies out of a normal run of 600,000 as a result of action yesterday. On Tuesday night production of The Times and The Guardian was disrupted. The way to a fresh attempt to resolve the dispute was opened on Tuesday by Mr Foot, Secretary of State for Employment, who met the union and the proprietors separately. Previous approaches to the Conciliation Service and the ITC had proved unsuccessful. The NGA has rejected a 63 per cent pay offer because it would erode its traditional differentials over other unions. Five other unions have accepted the offer.

Mr Shore replies to Heath letter about EEC trade

By Our Political Editor In a written reply to Mr Heath yesterday, Mr Shore, Secretary of State for Trade, said: "You will agree that Britain's pre-entry trade with the Common Market has, in the event, wholly lived up to the confident expectations of improvement in our performance that you and other members of your Government advanced in our pre-entry debate and, in particular, in your White Paper of July, 1973." Mr Shore added that his main concern in the statements he had made on United Kingdom trade with the EEC had been to draw attention to the seriousness of the imbalance: "If you have any doubt on this score I would ask you to reflect upon the fact that on a balance of payments basis the EEC accounted for 96 per cent of our total non-oil deficit in the first nine months of this year." Mr Heath, like other Conservatives, has been strongly challenging Mr Shore's accountancy of the balance of trade between the United Kingdom and the EEC, and some Conservatives hint that Mr Shore is disregarding the advice of some of his civil servants on what that balance is. In his reply last night, Mr Shore stated: "I am glad to see from your letter of December 16 that the figures relating to our trade deficit with the EEC are no longer in dispute between us; and that you now accept without qualification that these move from £131m on a balance of payments basis in 1971 to an annual rate of £1,668m in the first six months of 1974; and on a crude trade basis from £256m in 1971 to £1,951m at an annual rate in the first half of 1974." "As to the question why there should have been so lamentable a decline in our trade balance since we joined the EEC, I have been careful to avoid drawing any simple conclusions. Clearly there are a number of factors at work,

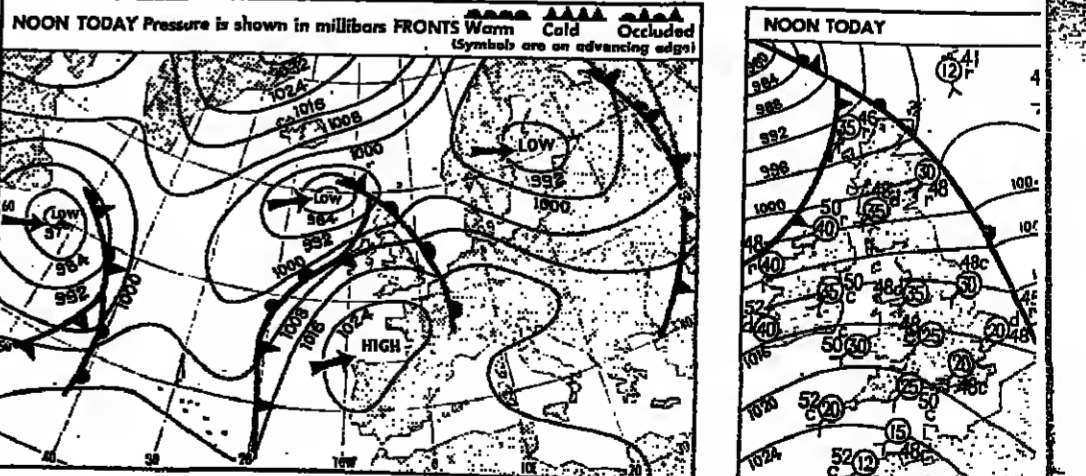
NUM moderates defeat move to merge areas

By Paul Routledge Labour Editor A fresh round in the internal political battle within the leadership of the National Union of Mineworkers ended yesterday with the moderates retaining control of their in-built majority on the union's national executive. By 16 votes to 11 the executive opted to keep the tiny Cumberland area, which has only one pit, as a constituent area of the NUM, with a full-time agent and a seat on the executive. And in a further vote of 14 to 12 the executive rejected a proposal from the finances and general purposes sub-committee to abolish the very small North Wales area. Insignificant though those votes appear to be, they hold the key to the political composition of the miners' executive because these "coalfields" with only about three thousand miners between them, return two moderates to the top body in the union. If these areas were merged with neighbouring coalfields, as the left have consistently argued, the moderates would lose their easy dominance over the union's affairs. Yesterday's voting on the issue confirms the breakdown of the committee system within the NUM policy-making machinery. The finance committee had proposed that Cumberland should retain its area status "because of geographical situation and difficulties in servicing the area" from the nearby coalfield, Lancashire. It also proposed, however, that because the North Wales area council of the NUM was not pressing for a replacement to Mr Joshua Ellis, the area secretary, when he retires in April, the coalfield organization could be merged with another constituent area. The first recommendation, favourable to the moderates, was carried, but the second, favourable to the left, was referred back (and thus rejected) with moderates who had taken part in formulating that view going against the committee's recommendation. The freedom of sub-committee members to vote as they like at executive meetings, conferred when Mr Joseph Gormley, the union's president, upheld that view last week, is clearly already causing serious repercussions within the union. The NUM executive also heard a report on exploratory wage talks held between national officials of the union and the National Coal Board two days ago. The board made no offer,

Mr Milhench to appeal

Ronald Milhench, who for Mr Wilson's signature, is appeal against the three-year sentence, imposed at a Ford Crown Court, his solicitor said last night. Mr Milhench Wolverhampton business admitted eight charges, including the forgery.

Weather forecast and recordings



Today Sun rises: 8.3 am; 6.33 pm. Moon rises: 10.48 am; 10.14 pm. First Quarter: December 21. Lighting up: 4.23 pm to 7.32 am. High water: London Bridge, 4.48 am, 6.7m (22.0ft); 5.21 pm, 6.7m (22.0ft). Avonmouth, 10.1 am, 11.1m (36.3ft); 37.8ft. Dover, 1.56 am, 6.4m (20.9ft); 2.20 pm, 6.0m (19.7ft). Hull, 9.25 am, 6.4m (20.9ft); 9.13 pm, 6.7m (22.0ft). Liverpool, 2.16 am, 7.5m (24.7ft); 2.29 pm, 7.9m (25.9ft). London, Midlands: Mainly cloudy, mostly dry; wind SW moderate; max temp 10°C (50°F). SE, E, England, East Angles: Mostly cloudy with drizzle at times early; wind SW moderate; max temp 9°C (48°F). Central S, SW England, Channel Islands, Wales: Generally cloudy with drizzle at times; hill and some coastal fog patches; wind SW, fresh or strong, max temp 11°C (52°F). NE, W, NW, Central N England, Lake District, Isle of Man: Mostly cloudy with some rain at times, preceded by sleet or snow on hills, hill fog patches; wind SW, fresh or strong; max temp 10°C (50°F). Borders, Edinburgh, E Scotland, Aberdeen, central Highlands, Moray Firth, Caithness: Mostly cloudy, some rain early and late; forecasts for 6 am to midnight. WEATHER REPORTS YESTERDAY MIDDAY: c, cloud; f, fair; r, rain; s, sun; sl, sleet; sn, snow. Almería 18.50, Cologne 10.50, London 10.50, New York 14.00, Amsterdam 19.45, Edinburgh 10.50, Liverpool 10.50, Paris 10.50, Rome 10.50, Stockholm 10.50, Warsaw 10.50, Zurich 10.50. (Times and dates are approximate and subject to change.)

Advertisement for Winston cigarettes. Text: "When you're looking for a change, look for Winston." "32p for 20." "Winston from Gallaher." "MIDDLE TO HIGH TAR. EVERY PACKET CARRIES A GOVERNMENT HEALTH WARNING." Includes an image of a Winston cigarette pack.

Mr Shore replies to Heath letter about EEC trade. (Continuation of the article from page 2, discussing trade balance and EEC membership.)

Admiralty board quashes Wren case conviction. (Continuation of the article from page 2, discussing the court martial and the appeal.)

Night talks on Fleet Street pay dispute. (Continuation of the article from page 2, discussing the negotiations between the NGA and newspaper publishers.)

Table with weather forecasts for various cities: London, Midlands, SE, E, England, East Angles, Central S, SW England, Channel Islands, Wales, NE, W, NW, Central N England, Lake District, Isle of Man, Borders, Edinburgh, E Scotland, Aberdeen, central Highlands, Moray Firth, Caithness.

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HOME NEWS

Teachers and councils to hold discussions on home-loan policy

By Tim Devlin Education Correspondent
A national policy under which local education authorities could give far more help to teachers to find places to live...

Department to study discipline in schools

By Our Education Correspondent
The Department of Education and Science will discuss discipline in schools with local authority associations and teachers' unions early in the new year...



Three of the 75 gaming staff, who say they have been dismissed for union activity took their case to the Commons yesterday. From left, Ann Sweetland, Jill Stewart and Elaine Carrae (Diary, page 14).

Man who put wife in freezer gets 10 years

A husband sentenced to 10 years' imprisonment at the Central Criminal Court yesterday for killing his wife and hiding her body in their deep freezer told medical experts that he had tried to combat her infidelity by lavish entertainment...

Don urges end to five-year plans by universities

Our Education Correspondent
Universities were urged yesterday to drop their system of five-year planning. Professor William Wallace, president of the Association of University Teachers, said the local administrative cost was heavy...

Woman's 73-hour week for £4.08

By Raymond Perman
Exploitation of women homeworkers is exposed in a report published today. Some worked for a fraction of the statutory minimum pay...

£55,000 bill for parish after access suit defeat

A legal battle over right of way to a toy village church at Iken, Suffolk, ended in the Court of Appeal in London yesterday with a sordid defeat for the church authorities...

Woman's 73-hour week for £4.08

Exploitation of women homeworkers is exposed in a report published today. Some worked for a fraction of the statutory minimum pay...

Universities back don's pay claim

The Association of University Teachers, backed by the university authorities, has asked the Government for an 18 per cent salary rise across the board on top of the Phase Three last October...

Murder remand

A boy, aged 16, was remanded in custody until Monday at Liverpool Juvenile Court yesterday, charged with the murder of Miss Helen Nimmo Bryce, aged 61, of Dorchester Park, Netherby, Liverpool.

£35,000 stolen

Two raiders yesterday escaped with £35,000 in cash when they rammed a stolen van into the side of a car carrying the Christmas taking of a Co-operative society store at Long Eaton, Derbyshire.

Patient's death a lesson to hoaxers, coroner says

From Our Correspondent
A hoax bomb call to a hospital, which led to the removal of more than 400 patients, hastened the death of a dying woman, it was stated at an inquest at Northampton yesterday...

Food chief gets libel damages

Mr Garry Weston, chairman of Associated British Foods, is to receive substantial damages for articles in August, 1973, in The Sun and the News of the World about his views on rising food prices...

Engineers defend motorway cost rise

The consulting engineers named in the Commons last week in allegations of possible overcharging on an M5 motorway contract said yesterday that the 4 per cent rise in price between tender and completion was unusually small...

£2 increase in Automobile Association fee

The Automobile Association member's annual subscription will increase from £5.50 to £7.50, a rise of 36 per cent, from next April, the association said yesterday...

Fine for credit card offences

James George Denny, aged 25, a building site supervisor who admitted stealing an Access card intended to be used through the box of his house at Archer Road, Stevenage, Hertfordshire...

Correction

Baron Nugent of Clonlost is not a peer as stated in The Times of December 7. The title is of Austrian origin and confirmation for its use in this country was given by Edward VII in 1908.

Poll suggests backing for more 'teeth' in race laws

Although most people think Britain has been harmed by the arrival of Commonwealth immigrants, many more believe that, once here, they should be treated as white people...

Caroline has a paint box in her head. How do you describe colour to someone? We take them for granted in this visual world of ours. Caroline is blind, she has to imagine colours, mix them inside her head...

£2 increase in Automobile Association fee. The Automobile Association member's annual subscription will increase from £5.50 to £7.50, a rise of 36 per cent, from next April...

Hostaform on target. Superbly accurate air rifles, pistols and sporting guns are synonymous with the name of Webley and Scott, long established producers of quality products for experts and enthusiasts alike...

HOME NEWS

Moves for by-election may begin soon in Mr Stonehouse's seat

By Penny Symon The disappearance of Mr John Stonehouse, aged 49, Labour MP for Walsall, North, a month ago in Miami, has raised an interesting constitutional point for the authorities of the House of Commons. Mr Stonehouse's constituency, where he has a 15,885 majority, is being looked after by neighbouring MPs, but it is clear that Walsall, North, Labour Party is not happy about that. Mr Walter Brown, assistant national agent at Transport House, is to meet constituency officials on January 3 to discuss what action to take. In view of Labour's small overall majority, they may be advised to begin preparations for a by-election. Mr Harry Richards, Mr Stonehouse's agent, said yesterday: "I think the party here would prefer some definite advice. Either they will tell us to go ahead, or hold on a bit longer, but at least something definite will, we hope, be said."

Stonehouse phone-tap ordered by Mr Wilson

By Christopher Walker During autumn, 1969, Mr Wilson gave instructions for the telephone of Mr John Stonehouse, then Minister of Posts and Telecommunications, to be tapped, and for him to be "screened" thoroughly by security services. That explains Mr Wilson's statement to the Commons on Tuesday that the allegations against Mr Stonehouse, Labour MP for Walsall, North, who has been missing in America for a month, were fully investigated by the security service. Last night Downing Street refused to say how long the screening operation took before Mr Stonehouse was contacted with allegations made about him by Major Josef Frolík, the Czechoslovak intelligence service defector. "It is not our practice to discuss the workings of the security service," I was told. The allegations, made by Major Frolík during debriefing by the American Central Intelligence Agency, referred to Mr Stonehouse's activities in an earlier part of the 1960s. At the time he was under scrutiny he gave no evidence to the security services to substantiate any of the allegations. These in the main concerned his involvement in a spy ring financed by the Czechoslovak Government. Downing Street last night also refused details of whether Mr Stonehouse had been cleared by the security services when he was confronted with the allegations made by Major Frolík. The British authorities had regarded highly much of the information provided by Major Frolík.



Mr Joseph Gormley, president of the National Union of Mineworkers, with Lord Shinwell during a House of Commons reception yesterday.

Cash change delays oil survey

By Pearce Wright Science Correspondent Important geological investigations in the North Sea are being delayed because of changes in the support of research and development from government funds. The issues are raised in the annual report of the Natural Environment Council published today. They are particularly concerned about the survey of the United Kingdom continental shelf carried out by the council's Institute of Geological Science. The survey was started in 1969, after discussions with ministers at a cost of about £1.75m a year. The object is to investigate by shallow drilling the geophysical survey the structure, properties, and resources of the shelf. A small, but not unimportant, application is to discover and assess bituminous (sand and gravel) and high-salt non-ferrous ores in the upper layers of the seabed. About a tenth of the costs go for that work.

However, the main part of the programme concerns exploitation of the hydrocarbon resources of the shelf. Although in the first year or so the institute was able to pioneer the exploration in certain areas, such as in Cardigan Bay, prospecting for oil and gas is elsewhere almost entirely the role of the companies. The primary contribution to hydrocarbon exploitation is proving to be more one of understanding the characteristics of the seabed for the siting, stability and safety of all rigs and pipelines. A far heter knowledge of the geology of the upper layers of the ocean floor is essential. As exploration moves into deeper and more exposed waters, accurate information will be even more necessary about the geotechnical properties of the bed. Difficulties have come with the transfer of research support under the new system of the

customer-contractor principle. Under the system the customer is a government department, and the contractor is the research council, university department, commercial research organization, or other institution that might do the work. The contractor is found through the particular research requirement board, set up to monitor that field of activity. About 85 per cent of the funds for the continental shelf programme were initially transferred to the Chemical and Minerals Board of the former Department of Trade and Industry. Arrangements have now been made to bring the programme to the attention of the Shipping and Marine Technology Requirements Board. But, according to the report, the real solution would seem to be to place the main responsibility for the future of the programme with the Department of Energy.

Mr Foot calls truce to get defence facts

By George Clark The clash over arms spending which resulted in 54 Labour backbenchers voting against the Government's defence programme in the Commons on Monday had its sequel at yesterday's meeting of Labour's national executive. Neither Mr Wilson, an ex-officio member, nor Mr Mellish, the Government Chief Whip, was present when Mr Allan, MP for Salford, East, seconded by Miss Maynard (Sheffield, Brightside), another left-winger, moved: That the national executive committee, disturbed by the fact that there is to be an increase in arms spending in both real and cash terms, asks the Government to introduce substantial reductions. Apparently Mr Allan, one of the leaders of the rebellion in the Commons, repeated his familiar argument that in terms of pounds and pence the spending would rise from this year's estimated £3,660m to more than £8,000m a year in five years' time if the present rate of inflation continued. Calling attention to the Labour manifesto statement on arms, he said the Government's programme committed the United Kingdom for the next 10 years to spend a higher proportion of the gross national product on defence than any of Britain's chief Western allies. Mr Callaghan, Foreign and Commonwealth Secretary, said there would be real defence cuts of £300m next year, £500m in three years' time and £750m in six years, his figures being related to constant spending. Mr Allan and other left-wingers on the executive, however, argued that he was ignoring future inflation. Mr Michael Foot, Secretary

of State for Employment apparently intervened with compromise. He proposed sending a delegation to Mr Mas Secretary for Defence, to the figures straight. That was agreed, the motion being allowed to "lie on a table" until next month's meeting. The delegation to Mr Mas will consist of Mr Allan, John Forrester, of the engineering workers' technical supervisory section; Mr Jo Chalmers, of the boiler-making union; Mr Mikardo, MP; Lower Hamlets and Beth Green; Mr Kitson, of Scottish movement's union; Tom Bradley, of the Transport Salaried Staffs Association; a Mr Hayward, party general secretary. A motion put forward by Mr Maynard, backed by Mr Allan, expressed perturbation at the Prime Minister's statement in Paris on December 7 which opened up the possibility of a recommendation to the British people to EEC membership. That motion said, was contrary to the executive's decision in July to hold a party conference, the outcome of the renegotiations. In the debate, Mr Hayward supported the manifesto commitment that the people's decision would be binding on the Government. When the verdict was given both pro-European and anti-European should be prepared to accept the verdict of the people. Eventually it was decided: let the motion lie on the table. Mr Hayward will see Mr Wilson to make arrangements for a two day conference, probably in April.

Rising costs reduce egg production

By Our Agricultural Correspondent The average British chicken laid fewer eggs this year than in 1973, the Ministry of Agriculture said yesterday. Although the individual decline was small it was equivalent to a national reduction of 300 million eggs. Farmers said that rising costs had led to three factors tending to reduce egg-laying. Mr Denis Wellstead, of the poultry department of the National Farmers' Union explained. First, he said,

farmers were keeping more hens for a second year to reduce rearing costs, chickens lay fewer eggs in their second year. Second, costs of raw materials had slightly reduced the quality of some poultry-feeds, and, third, some farmers were finding it more economical to use cheap feeds, which lowered egg output. "The egg-producing industry is now just about breaking even or seeing a copper or two's profit", Mr Wellstead said.

There had been heavy losses earlier this year. The ministry said the average yield of a battery hen was 232 eggs in the year ended September, 1974 compared with 239 in the previous 12 months. Comparable figures for free-range hens were 173 and 181. There has also been a continuing increase in egg rearing. Fewer than a twentieth of the hens kept for egg-laying are now free-ranging. Almost nine tenths of all egg-laying chickens are now broiler-reared.

Mr Wilson declines to intercede for pickets

By Our Labour Staff A combined delegation from the TUC and the National Executive Committee of the Labour Party will see the Home Secretary today and ask him to recommend the Queen to use her prerogative to free the Shrewsbury pickets in time for Christmas. Eric Tomlinson and Dennis Warren were jailed for three years and two years respectively after being found guilty of conspiracy, unlawful assembly and causing an affray while picketing building sites in Shropshire during the 1972 national building strike. Earlier this month they were refused leave to appeal to the House of Lords. Yesterday a team from the TUC, led by Mr Len Murray, general secretary, and including Mr Jack Jones, secretary of the Transport and General Workers' Union, Mr David Bannett, general secretary of the General and Municipal Workers' Union, Mr Kenneth Gill, general secretary of the Technical and Supervisory Section of the Amalgamated Union of Engineering Workers, and

Mr Glyn Lloyd of the Union of Construction, Allied Trades and Technicians, saw the Prime Minister. They asked him to intervene to secure the release of the pickets by Christmas and objected to the use of conspiracy laws in the case. Mr Wilson told them that the exercise of the prerogative was not his responsibility and that he did not think it was a matter to be considered by the Cabinet. Under pressure from the TUC delegation, Mr Wilson said he would notify Mr Jenkins of the meeting but make no recommendation. Our Political Staff writes: The Home Secretary last night rejected demands at a meeting of the Parliamentary Labour Party that he should exercise his prerogative to release the pickets. It was a fundamental principle of our system of justice, he said, that the decision in individual cases was a matter for the courts. The rule of law and the independence of the courts would be seriously undermined if Governments were to judge the merits of cases

Lack of copies of new rules frustrate divers

From Arthur Osman Birmingham The conference of the new Association of British Professional Divers in Birmingham yesterday foundered somewhat because of a shortage of copies of government safety regulations due to printing difficulties. Several hours of discussion about better training and safety for divers working in the North Sea oilfields were generally inconclusive, although closely argued. The 40 or so divers present were said to represent the whole British diving contingent in the oilfields. Mr Harold Cox, association administrative director, a former Royal Navy petty officer, said that commander Jack Warner, one of the speakers, the only diving inspector in the Department of Energy, had had to fly to Orkney to investigate the death on Tuesday of a diver. The conference expressed concern about the growing number of inexperienced divers in the North Sea, attracted by the high wages

dignity rather than charity says Colin Morris



"The test of a truly civilised society is how it treats those least able to defend themselves in the rat race, especially the aged. This world is better than it might have been because they have made it so. At the very least they have earned peace after the struggles of life, dignity rather than charity and a place of honour amongst us—precisely the things Methodist Homes for the Aged give them. This magnificent embodiment of the Christian faith in action (and what other kind counts in the end?) could help many more if only we would pay off a fraction of the undischageable debt we owe to generations who have left us so rich an inheritance. I believe that when the history is written of the British Churches in the 20th Century, Methodist Homes for the Aged will rank as one of its greatest and lasting achievements—which is no cause for complacency, but humility, gratitude and generosity. If you can't give for Christ's sake, then give anyway as a token of respect and affection for someone who holds a hallowed place in your memory and helped to shape your future."

Methodist Homes for the Aged Please send a generous gift to the General Secretary Rev R J Cornall, MBE, BA, DD, 1 CENTRAL BUILDINGS, WESTMINSTER, LONDON SW1H 8RS

Old people's homes get £85,000 fire protection

Fire safety systems costing more than £85,000 are to be installed immediately in all Nottinghamshire County Council's 24 old people's homes, the council announced yesterday. Eighteen old people died in the fire at a home at Edwalton, near Nottingham, last Sunday. Precautions include fire and smoke barriers in all the homes, and smoke protection systems in the 12 one-storey homes similar to the Fairfield Home. An inquest on 16 women and two men who died in the fire opens in Nottingham today.

MP resigns from Bow Group

Sir Anthony Meyer, Conservative MP for Flint West, said yesterday that he had resigned from the Bow Group because of editorial criticism of Mr Heath. In a letter to the group, Sir Anthony said the leading article in *Crossbow* calling on Mr Heath to quit "constitutes a direct attack by the group on Mr Heath's leadership".

Explosion trial nears conclusion

A jury at Oxford Crown Court will be asked to consider verdicts today in the case of four young men who have pleaded not guilty to charges including recklessly endangering life by planting explosives. The defendants are Michael Peter Skelting, Andrew Grainger, Roger Randall Moore and Dermot Brian Dobson.

18 pc pay rise in water service

A wage settlement, bringing rises of 18 per cent, was agreed yesterday for the 35,900 manual water service employees in England and Wales. The figures ensure that low-paid workers will receive at least £30 a week.

Ferry reprieved

British Rail is postponing the proposed closure of the Heysham-Belfast car and passenger ferry service from February 1 to April 6, after recommendations by the area transport users' consultative committee.

Reform of laws on prostitution, morals and vagrancy urged

By Marcel Berlins Legal Correspondent Proposals for a thorough reform of the laws on prostitution, morals and vagrancy are made in two working papers published yesterday. A Home Office working party, making the first study of crimes linked to soliciting since the Act of 1959 which forced private prostitutes to register, suggests that there is need for a new law against male "kerb crawlers". The Law Commission recommends the abolition of the controversial offence of conspiracy to corrupt public morals, but to plug the gaps left by the scrapping of that and other common law offences proposes some new specific crimes. The two reports, which contain the provisional views of the two bodies, are published together by design. The Home Office working party says that all the evidence it has obtained suggests that the activities of kerb crawlers (men who accost women from most cases charged as conspiracy to corrupt public morals) should be dealt with by the existing statutory law. The use of the conspiracy offence has been criticized on the ground that it related to conduct which would not be a criminal offence if done individually and because it was said that judges were in fact creating new law based on their own ideas of morality. Other common law offences should also be abolished, the Law Commission suggests, including conspiracy to outrage public decency, indecent exposure, keeping a disorderly house, obscene libel, and conspiracy to defraud. Together with the Home Office working party, it proposes to bring a series of specific statutory crimes. Among them are the exposure of male geni-

tal in circumstances likely to cause offence, and having sexual intercourse or performing other acts of a sexual nature in a place where it can be seen and cause offence. The Home Office working party also calls for a newly defined offence to deal with the public exhibition of indecent material, in circumstances where it is forced on the public. It makes clear, however, that it is not suggesting any further restrictions on what individuals may wish to see. The Obscene Publications Act should bring within its operation all exhibitions of films on unlicensed premises which ought to be licensed. At present they are subject to censorship neither by the British Board of Film Censors nor the Act. Live sex shows should be dealt with on the same basis as the obscene performance of a play, which is governed by the Theatres Act, the Law Commission proposes. The Home Office working party makes proposals overhauling and modernizing the laws on vagrancy, many of which date back 150 years. It proposes offences in line with conditions today to replace the old crimes of begging, being found on enclosed premises and being a suspected person. It also recommends the creation of an offence of causing a nuisance by sleeping rough. But the crimes of fortune-telling and operating as a pedlar without a licence should be repealed, it says, as should the distinctions under an Act of 1824 between idle and disorderly persons, rogues and vagabonds, and incorrigible rogues. The Law Commission, Working Paper No 37, *Conspiracies Relating to Morals and Decency*, Stationery Office, 75p. Home Office Working Party on Vagrancy and Street Offences Working Paper, Stationery Office £1.22.

Reform of laws on prostitution, morals and vagrancy urged

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New council to cut number of top jobs

From a Staff Reporter Glasgow In reply to criticism that the salaries to be paid by the new Strathclyde regional council are too high, Mr Geoffrey Shaw, convener of the council, said yesterday that when the authority comes into power in May £170,000 a year will be saved in the salaries of senior staff. He told a press conference in Glasgow that the council would have 32 fewer senior officials than are employed by the present authorities in the region. "While I am not suggesting that similar economies can be achieved right across the board, it is an indication of the way the regional council is attempting to keep costs down to the minimum", he said. The savings would be made among senior finance and administrative officials. Mr Shaw said it was unfortunate that the new authority would be taking over as Britain entered an economic crisis. For the next year at least the policy would be one of retrenchment rather than expansion. He did not believe that the public would want services to be expanded at the cost of greatly increased rates. Recruitment of staff would be kept to a minimum and Dr Lawrence Boyle, the council's chief executive, had told the director of manpower services and the head of management services to scrutinize carefully all staffing proposals.

University and firm in joint drug project

From Ronald Faux Edinburgh A £7m research centre for the commercial development of new drug and medical treatments is to be built at Heriot-Watt University, Edinburgh. The centre was claimed yesterday to be the first of its kind in Britain to bring together so closely a university and a commercial pharmaceutical company. It will occupy six acres of the university's research park at Riccarton, Midlothian, an employ 50 people, many of them graduates. The company involved is Synx Pharmaceuticals Ltd, the British subsidiary of International Synx Corporation, whose research in the life sciences has had particular success in the area of arthritis, drugs and oral contraceptives. The first phase of the development, costing £1m, will start work in 1976. One of the first research projects will be aimed at heart diseases. Dr George Christie, managing director of the new centre, said clinical trials of new products developed would be carried out in hospitals in central Scotland. The products would be marketed first in Britain. The university said its scheme to turn 20 acres of the Riccarton campus into a research park had met with general hostility when it was first announced. It now seemed that the original plan had been too cautious.

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WEST EUROPE

Three shot dead in hunt for outlawed Basque separatists

From Our Correspondent Madrid, Dec 18 The hunt for Basque activists resulted in three killings in one night and bombs wrecking shops in three Basque towns, according to reports in Madrid today.

The strike goes on in 10 prisons involving more than 150 political prisoners, most of them Basques. The polarization of political forces seemed more obvious in Madrid today.

Triumph for M Chirac in censure debate

From Our Own Correspondent Paris, Dec 18 The motion of censure against the Government's policy, the first since it came to power, was lost early today by a wide margin, as expected.

He also used it to point to the division of the left, and its desperate clinging to the common programme of 1972—"an immutable and congealed bible" he called it.

2 years' jail or six bank robberies

From Our Correspondent Berlin, Dec 18 Frau Ingrid Siepmann aged 41, was sentenced to 12 years' imprisonment by a West Berlin court today on six charges of bank robbery and of unauthorized possession of arms.

West Berlin to negotiate with E Germany

From Our Correspondent Berlin, Dec 18 The West Berlin Senate today informed the East German Government that it was prepared to negotiate on proposals made by East Germany last week.

EEC begins scheme for cheap sugar

From Our Own Correspondent Brussels, Dec 18 The European Commission's scheme to provide the British housewife with cheap sugar got going tonight, when the Commission approved tenders from 16 traders to import 102,000 tons of raw sugar from the world market.

To reduce the cost of the subsidy to the EEC, about which the Germans were particularly worried, sugar traders are given a certificate allowing them to export next year's EEC crop without paying the present high export tax, thus giving them an opportunity to gamble on the futures market.

Cape Verde Islands to get independence next year

Lisbon, Dec 18.—Portugal will grant independence to the Cape Verde Islands on July 5 next year, Dr Antonio de Almeida Santos, the Overseas Territories Minister, announced in Lisbon today.



Commonwealth preference: Mr Whitlam, the Australian Prime Minister, says in Brussels that he sees no advantage in Britain leaving the EEC.

Concern over Italian plot inquiry

From Peter Nichols Rome, Dec 18 Fears are being expressed about the consequences if responsibility for inquiries into right-wing plotting is transferred from the Padua judiciary to Rome.

The decision rests with the Court of Cassation which has still not pronounced officially. But there is a widespread feeling that inquiries into the most serious allegations will be concentrated in Rome.

Whatever truth there may be in these assertions, the suspicion is there that the extreme right could, and probably still can, look for understanding among highly placed individuals.

OVERSEAS

Smith party hears of settlement plans

From Michael Knipe Salisbury, Dec 18 The parliamentary caucus of the ruling Rhodesian Front party was briefed today by Mr Ian Smith, the Prime Minister, on the attempt to reach a constitutional settlement.

three of his colleagues and the Rev Ndabaningi Zikwe, former leader of the Zimbabwe African National Union and three of his colleagues.

NZ economist to face trial

Wellington, Dec 18.—A judge today ordered Dr William Ball Sutch, a leading New Zealand economist, to stand trial on a charge of a breach of the Official Secrets Act.

Peking zoo gets two rhinos

From Our Own Correspondent Peking, Dec 18 Mr Edward Youde, the British Ambassador, today handed over to the Peking zoo two young white rhinoceroses which have been sent as a gift from the London Zoo.

Parliamentary pay rise debate ignored

Ottawa, Dec 17.—A parliamentary debate on a 50 per cent pay rise for Canadian MPs was adjourned after 90 minutes today for lack of a quorum.—Reuter.

British firms encouraged to improve African wages

By John Grosor The Government has decided that it is right for British companies with holdings or subsidiaries in South Africa to give evidence in public that they are treating their African employees properly.

its value by extensive publicity. The White Paper says that the Government has decided that British officials, both in Britain and in South Africa, will continue to draw the attention of business to the code of practice and to stress the Government's endorsement of it.

Left-wing rift perplexes many Communists

From Our Own Correspondent Paris, Dec 18 A third of France's working-class Communist voters do not understand why the party leadership is quarrelling with the Socialists, according to a Public Opinion poll published in L'Aurore today.

Swedes board Soviet ship in restricted waters

From Our Correspondent Stockholm, Dec 18 Swedish officials were today questioning the captain of a Russian cargo ship who, they said, set anchor in restricted waters near Stockholm without asking for permission.

Advertisement for Rank Hotels featuring the slogan 'We're on a nice little money-saving number' and contact information for 17 hotels across Europe and the UK.

Advertisement for White Horse Fine Old Scotch Whisky featuring a large image of a bottle and the slogan 'Take home a White Horse this Christmas.'

OVERSEAS

More Nixon men expected to resign as President Ford moulds his Cabinet into shape

From Patrick Brogan Washington, Dec 18 Mr Claude Brinegar, the Secretary for Transportation, announced his resignation from the Administration today. He will probably be succeeded by Mr John Robson, a lawyer from Chicago who was once general counsel to the department, and who is a close friend of Mr Donald Rumsfeld.

Officers expected to depart soon are Mr Casper Weinberger, Secretary of Health, Education and Welfare, Mr Frederick DeLo, Secretary of Commerce, Mr Peter Brennan, Secretary of Labour, and Mr Earl Butz, Secretary of Agriculture.

Mr William Simon, Secretary of the Treasury, has confided to his friends that he does not know whether he will survive the reshuffle. This would leave Dr Henry Kissinger at the State Department and Dr James Schlesinger at the Pentagon.

America refuses to sit on new UN aid committee

From Our Own Correspondent New York, Dec 18 The United States has caused the United Nations to sit on a new committee which will be in charge of distributing aid to the developing countries.

They suggested that the fund might be useful for "newly rich member states, without established patterns and institutions for rendering assistance"; but they themselves intended to continue to use existing channels for distributing aid.

Mr Wilson to visit US on January 30

Mr Wilson's visit to Washington will take place on January 30 and 31, preceded by a visit to Ottawa.

Lebanese village raided by Israel troops

From Paul Martin Beirut, Dec 18 Helicopter-borne Israel troops attacked a village six miles inside Lebanese territory early today, blew up six houses and kidnapped four villagers.

Moshe Brilliant writes from Tel Aviv: The Israeli raiders reportedly were met by sporadic gunfire. There were no reports of casualties.

Treason inquiry arouses fears for free speech in Israel

From Eric Marsden Jerusalem, Dec 18 Israel's Ministry of Justice is investigating alleged activities in support of the Palestine Liberation Organization by a chemistry professor of the Hebrew University in Jerusalem.

The Shalak affair has caused a furor in academic and political circles. It has to be seen in the light of the emotional reaction to the Rabat summit and United Nations recognition of the PLO, which has convinced the mass of Israelis that they are again faced with a fight for survival.

Professor Rubinstein points out that the Minister of Interior had the power to read the citizenship of a person, had "committed a deed of loyalty to the state of Israel but had not used this authority for reasons best known to himself".

The subject of the investigation is Professor Israel Shalak, chairman of the Israel League for Human and Civil Rights, which frequently complains of repression of Arabs and ill-treatment of prisoners in the occupied areas.

Public opinion is heavily against the professor, although few Israelis were aware of his activities until recently. Yet there is a troubled minority, particularly of students and lecturers, which regards the Government investigation as the first erosion of the cherished Israeli tradition of free speech, academic freedom and the right to fight for unpopular causes.

Mr Uri Avneri has denounced Professor Shalak's "horror paganda" as "liable to servile ammunition in the hands of those who aspire to destroy the state".

He was accused later in the press of having supported Palestinian terrorists and taking part in a demonstration outside the Israeli Embassy. Professor Shalak denies the accusations.

Professor Shalak's critics report that these must be suspended in Israel's present perilous situation, which they compare to that of wartime Britain.

He adds: "When a Jew is the Syrians tortured him must believe him at once, but when a Palestinian claims that Jews tortured him we do not believe him in any way."

Bitter fighting at Vietnam crossroads

Saigon, Dec 18—Close-quarter fighting broke out in a strategic South Vietnam crossroads town today, with communist units threatening to cut off much of Phuoc Long province, north of here, military sources said.

Communist troops entered Don Luan, a district capital 60 miles north of Saigon, the sources said. Thearrison of several hundred Government militiamen was holding out with air and artillery support, but the sources described the situation as dangerous.

Saigon command reported that militiamen were driven from positions guarding two bridges, and the provincial capital, Phuoc Binh—already cut off by road from Government lines—was hit by three rockets today.

Lebanese village raided by Israel troops

The Israelis attacked only hours after Lebanese parliamentarians had recommended that the country should seek Arab counsel and possibly aid in new defence measures to repulse Israeli attacks.

An Arab attack on the border kibbutz of Hamra, at first was officially reported as a Katyusha rocket bombardment from Lebanese territory. Then it was discovered that the border security fence and the Hamra village fence had been breached and infiltrators fired bazookas and lobbed grenades from within the village grounds.

The people behind an advertisement

By Edward Mortimer The Committee for Justice in the Middle East, whose advertisement in The Times last week provoked so much controversy, was set up in 1968. Its chairman is Dr Muhammad Mehdi, a lecturer in mathematics at Birkbeck College, London.

Dr Mehdi told me yesterday that the committee has 200 to 300 "ordinary members", each of whom pays an annual subscription of £1. Most of these, he said, are Arab students and sympathizers, but a large minority is British, including a number of British Jews.

Dr Mehdi admits that there is a considerable overlap between the committee's members and that of the Council for the Advancement of Arab-Brit Understanding, founded in 1967, and also that of the Palestine Action. But, he says, the organizations are more political, whereas the committee concentrates on human rights.

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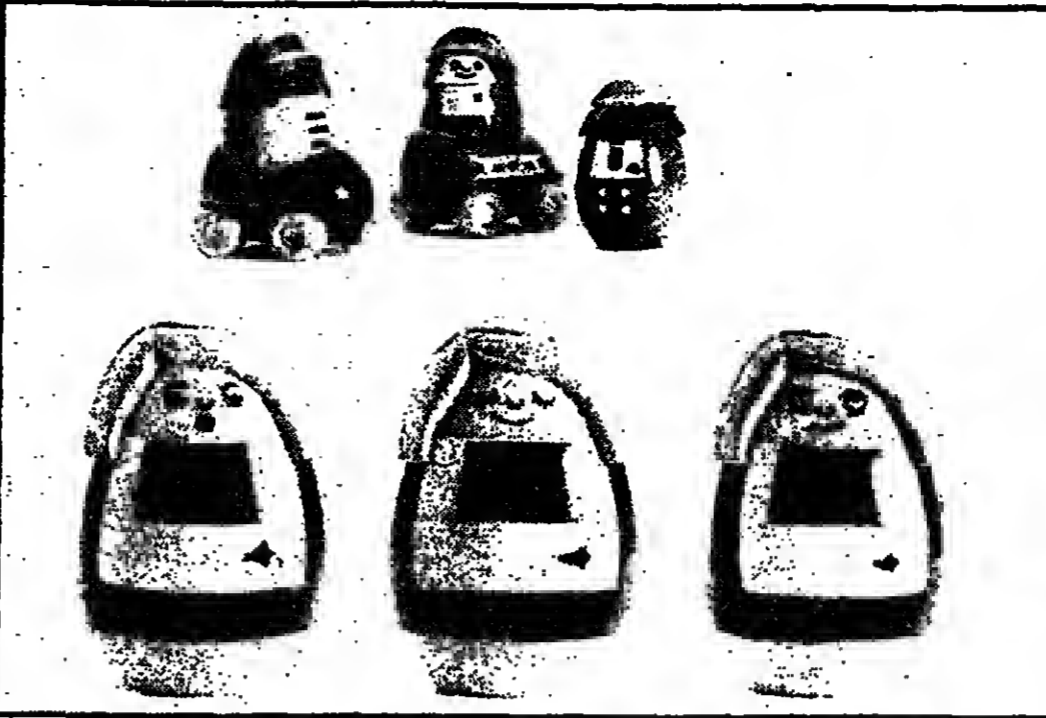
Choice of new Greek President stirs inter-party friction

In Maria Modiano's... Michael Stasinopoulos... President of the Republic... Greek constitution is drafted...

Pakistan minister resigns over allegations

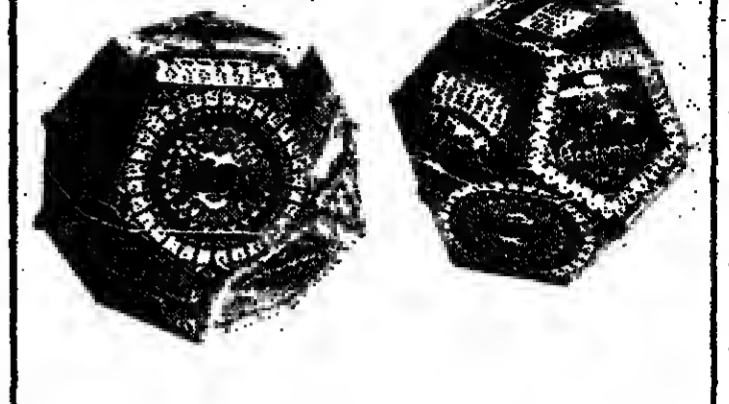
Islamabad, Dec 18.—Mr Khursid Hasan Meer, the Pakistani Minister of Labour and Health, has resigned and renewed demands for a judicial inquiry into allegations of corruption.

Shopping around



● Tonka people follow the usual Tonka tradition of being strong enough for children to stand on them, which they will. But these are very small finger puppets despite their strength.

● Escape the normal run of wall and desk calendars with this stiff card dodecahedron to make at home.



● Here comes the annual reminder—an aerosol spray for the live Christmas tree.

Makarios attempt to visit Turkish Cypriots deplored

In Our Correspondent's... Rauf Denkash, the Turkish Cypriot leader, said that it was regrettable that the British authorities did not prevent Archbishop Makarios from attempting to visit Turkish Cypriot refugee camps.

Australia stays deportation order on Czechs

From Our Correspondent Melbourne, Dec 18.—Mr Clyde Cameron, the minister for Labour and Immigration, today ordered the release from custody of two Czech men who had been deported.

My own definition of the ideal present is that it should cost me something to give—effort, thought, a little more money than I can easily afford, and even some envy because I would like to keep it for myself.

Because it meets more than one of these criteria, Peter Jay's recommendation of 25lbs of sugar gets the accolade for the Christmas 1974 gift in the Under £5 category.



other hopes to give a Ladies Home Do-it-yourself Manual for Intelligent Women but I shall have the grace not to mention his name in case he finds one and his wife gets it. A man who likes to hedge his bets is Sheridan Morley who is as keen to give as to get Benidicks thick mints (one yard under £5 or two yards under £10) in the hope that he will be asked to share them.

London air girls killed in holiday crash

On Our Correspondent's... Three air hostesses from London on holiday in Greece are killed yesterday in an air crash on the island of Mykonos.

Handbook for dissidents on psychiatric examination

Moscow, Dec 18.—Two Soviet political prisoners have produced a tactical handbook to guide dissidents suspected of psychiatric examination.

Advertisement for 'I can't face my future' featuring a woman and text about financial planning and population growth.

Russia announces token defence cuts

Moscow, Dec 18.—The Soviet Union today announced a small reduction in military spending for 1975, apparently as a sign of détente with the West.

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There ought to be a jar in every home...

Advertisement for HAG decaffeinated coffee, showing a jar of coffee and text about its quality.

Advertisement for cannibal clothing, featuring a man in a suit and text about the brand and its products.

BOOKS

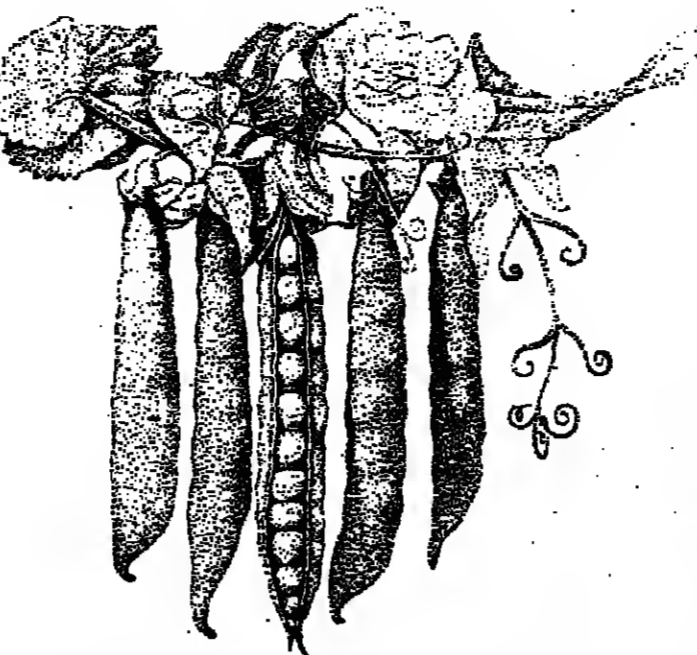
A mystery at Findhorn

The Secret Life of Plants By Peter Tompkins and Christopher Bird

Plant and Planet By Anthony Huxley

grew. It is easier to giggle at the Gilberdian details of the new spirituality than to explain why Eltix and Divina not only made things grow which had never grown in Findhorn before...

ality; their minor journalistic weaknesses are vulgar and bathos, their major one the lack of critical personality on any issues save two.



More plants in Cobbert's Country Book David and Charles, £4.25, whence this finely drawn embellishment by Bert Kitchen. Richard Ingrams, in his introduction, remarks that only Cobbert's Rural Rides remains in print...

Short stories

The Camberwell Beauty By V. S. Pritchett

Eligible Men By Stanley Elkin

Social Bitch By Roald Dahl

barely a pause. Here is how "The Spree" opens: "The old man—but when does old age begin?—the old man turned over in bed and putting on his hand to the crest of his wife's beautiful white rising hip...

Those who manage to get through the tedium of "The Ballbondsman", the first of Mr Elkin's three short novels will arrive at the limit of preposterousness in "The Making of Ashenden", the portrait of a man of letters...

The Duff Cooper Memorial Prize for 1974 has been awarded to Jon Stallworthy for his book Wilfred Owen: A Biography

"There are obvious difficulties about writing the biography of a man who lived only 25 years... Jon Stallworthy surmounts them all brilliantly in a biography which is unlikely to be bettered."

"Mr. Stallworthy keeps making one re-experience and rethink the poems, and he writes with precision and sympathy. His book is beautifully produced, also, with numerous reproductions of Owen's manuscripts."

Oxford/Chatto & Windus

From the author of The Golden Notebook, Children of Violence and The Summer Before The Dark

DORIS LESSING THE MEMOIRS OF A SURVIVOR

A new and unforgettable narrative of the collapse of society, when barbarism is normal and each has to fight for survival.

OCTAGON Dept. A, 14 Baker Street, London W1M 1DA

Goodbye Picasso David Douglas Duncan "the best book I have ever seen about a painter... rush out and buy it" Tony Palmer, Sounds New LBC

Crime

It is Christmas-wrapped goodies time in the crime world. The short-story collections are upon us.

Quick guide

Essays and Opinions 1921-31, by Edgell Rickword; Edited by Alan Young (Corgi Press, £4.00). Edgell Rickword wrote the anonymous review of The Waste Land for the TLS in 1923.

A brilliant mind

Francis Galton The Life and Work of a Victorian Scientist By D. W. Forrest (Elek, £5.50)

What Adam Smith is to economics, Francis Galton is to sociology. Herbert Spencer was philosopher compared to Galton, who was above all a measurer and experimenter.

Crime

inside John Creasey's Mystery Beside Book 1975, edited by Herbert Harris (Hodder, £2.50), are almost all of the instant-munch variety, those short shorts that as Julian Symons, himself one of the contributors, says in his crime-history Bloody Murder, can be read in a hand and to read."

Ellery Queen's Crookbook, edited by Ellery Queen (Collins, £2.90), is another anthology collection—25 stories this time—that for the most part provides toothsome morsels, and holiday welcome they are.

The Other Side of the Wall, by Edgell Rickword, is a collection of literary journalism. The main theme is the deliberate limitations and with a wonderfully well-timed final clicking into place.

him study also Rickword's carefully formulated objections to Eliot's other books of the period; they represent, as do all his critical writings, the response of an honest mind prepared to analyse its own limitations in the way of puzzlement before new texts.

Quick guide

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Ban imposed on publication of book to protect ward of court lifted

In re X (a minor). Before Lord Denning, Master of the Rolls, Lord Justice Roskill and Sir John Pennycuik.

The Court of Appeal lifted an injunction restraining the publication of a book imposed to protect a ward of court, a girl of 14, on the ground that she might suffer grave psychological harm if she read passages in it referring to her dead father.

Mr Justice Lane had granted the injunction on the application of the girl's stepfather, against the publishers and author, restraining them from publishing the book, already in print, unless the passages complained of were removed.

The Master of the Rolls said that he would not mention the names of persons, places or books, but that it was undesirable to do so. The central figure was a girl now 14. Her father died some years ago. Her mother had married again.

In October a book was about to be published; reviews had been printed. It was on a serious subject though written in a light and sensational style. In the first chapter alone there were passages about the girl's father, an able and intelligent man but with a depraved character who were described.

It was alleged—and it could be proved—that though those passages had not come to the girl's notice, there was a risk that if the book was published she would be aware of their content and would be a real risk of grave psychological damage resulting.

Proceedings were therefore taken to make her a ward of court to restrict her access to those passages. It was said that it would cost only £180 to publish the book without them, and that on balance that ought to be done.

His Lordship ventured to think that it was likely, having regard to the girl's age, her environment and the profession of her mother and stepfather, that if the book was released and she was likely to read it in some way or another become aware of the contents.

But that was not the only issue. There was in this country—and it was right that it should be stated in clear terms at this stage of the twentieth century—a right of free speech and a right of publication, and that right was at least as important as the right of individuals in particular cases, whether wards or adults.

His Lordship said that the test of whether publication would be in the public interest was not whether it would be in the public interest if the book were published, but whether it would be in the public interest if the book were not published.

Breath test appeal for Lords

Walker v Lovell. Before Lord Widgery, Lord Chief Justice, Lord Justice Goff and Lord Justice Melford Stevenson.

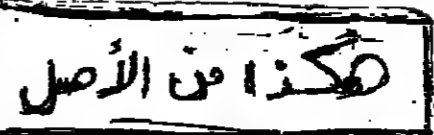
If a motorist blows into a breathalyzer but does not completely fill the bag, has he not provided a specimen of breath for a breath test even though the crystals turn green?

The House of Lords is to consider the question on a police appeal from the Queen's Bench Divisional Court, who decided that the motorist had not failed to provide a specimen.

The Lord Chief Justice, giving judgment on Friday, then sitting with Mr Justice Melford Stevenson and Mr Justice Watkins, said that the officer had not provided a specimen of breath for a breath test even though the crystals turned green.

Mr Justice Melford Stevenson said that the officer had not provided a specimen of breath for a breath test even though the crystals turned green.





ENTERTAINMENTS

When telephoning use prefix 01 only outside London Metropolitan Area.

OPERA AND BALLET

ROYAL OPERA HOUSE 1911-1912... THE ROYAL OPERA HOUSE... THE ROYAL OPERA HOUSE...

THEATRES

PALACE 437 8824 Mon-Thurs 8.0... JESUS CHRIST SUPERSTAR... THE PALACE...

CINEMAS

CINEMA 1111 W. 1111 499 3707... THE PALACE... THE PALACE...

THE ARTS

Barber of Seville... Coliseum... Barber of Seville...



Sandra Browne

Job the archetypal Simon character

God's Favourite... Eugene O'Neill, New York... Job the archetypal...

Clive Barnes... Is Job funny? Perhaps. Certainly it seems that Neil Simon...

With the story clear, it remains only to discover how clever Simon's modern variations upon classic themes...

More than any other Simon play, God's Favourite depends heavily on its staging and setting...

The opening is a little slow. We meet Joe and his family, and his loyal retainers...

Uncle Vanya... The Other Place... Stratford-on-Avon... Irving Wardle...

Williamson has also seized on the play's inherent stylistic contrast, allowing the second act to grow from domestic chaos into a delicate nocturne...

As for the casting, one starts by wondering why Williamson, a natural for the wolfishly sardonic Astrov, is playing the name part...

Hans Andersen... Palladium... Charles Lewsen... Rumour had it that the Palladium was not offering a panmimne this year...

Freddie Carpenter's direction allows Milo O'Shea, as a down-at-heel (or, rather, sole) pianist, to praise the feel of a newly repaired shoe before he has tried it on.

Stanley Sadie... It is good to be back in the Coliseum again after its six weeks of darkness...

lightness or zip or rhythmic spruceness about the performance. Nor was it specially distinguished vocally...

powerful scene of the ghosts' appearance something of what dramatic frisson...

Alan Blyth... Riddigore... Sadler's Wells... Riddigore is badly in need of an overhaul...

Elgar's public manner considerably mellowed by a visit streak of respectation, but also perhaps more to the point...

London debuts... Given a sufficiently sensitive performance, Debussy's Ariettes Oubliées rarely fail to cast their spell...

ROYAL ACADEMY OF MUSIC... THE ROYAL ACADEMY OF MUSIC... THE ROYAL ACADEMY OF MUSIC...

ART EXHIBITIONS... MOORE GALLERY... NATIONAL GALLERY... NATIONAL GALLERY...

ROYAL ACADEMY OF MUSIC... THE ROYAL ACADEMY OF MUSIC... THE ROYAL ACADEMY OF MUSIC...

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ROYAL OPERA HOUSE... THE ROYAL OPERA HOUSE... THE ROYAL OPERA HOUSE...

English National Opera is back in action! Full schedule of published performances over Christmas and the New Year. London Coliseum 01-836 3161

Sandra Browne

Barber of Seville

Coliseum

Stanley Sadie

Alan Blyth

Riddigore

Sadler's Wells

Elgar

RPO/Groves

Festival Hall/Radio 3

Stephen Walsh

London debuts

Hans Andersen

Palladium

Charles Lewsen

Bryce Morrison

Max Harrison





MARTELL 1715  
Trafalgar 1805

90 years before the mast.

SPORT Football

Wycombe and Chester are top dogs

Chester, of the fourth division, knocked Newcastle United out of the League Cup and Wycombe Wanderers, of the Isthmian League, beat the third division club Bourne...

Wycombe have a dream-like prize for their labours, which at the same time added salt into the wound of Middlesex at Old Trafford...

enabled Wycombe to beat Bourne-mouth 2-1. A goal down in nine minutes to a fine header from 17-year-old Goddard...

full house of 19,000, they provided the ammunition for their manager's warning about the game that they could not possibly win it...

Notts Co Cup tie date change

Notts County have been granted a request to play their FA Cup third round tie against Portsmouth on Friday evening...

Beattie returns to ask Ipswich manager to give him a rest

Kevin Beattie, the Ipswich Town footballer, yesterday travelled home to place himself at the mercy of his club manager, Bobby Robson...

Beattie, 21 yesterday, went missing for 24 hours when he was expected to report for the Under-23 match before being found at his parents' home in Carlisle on Tuesday...

Alan Little, a 19-year-old midfielder player from Aston Villa, has been selected for Southern United, for a fee of £10,000...

Greece increase their lead in group eight

Athens, Dec. 18.—Greece increased their lead in qualifying group eight of the European championship with a 2-1 victory over Bulgaria here today...

North underline class with a flourish

By Norman Creek Southern 2 After their successes on the previous day in the six-a-side tournament, it was to be expected that the North would be the favourites...

Bowles comes off the transfer list

Steele Bowles, placed on the Queen's Park Rangers transfer list for a month last week, has decided that he wants to stay with the club...

Disciplinary cases on the increase

Disciplinary offences in Football League Cup, and FA Cup matches are on the increase at the end of November 50 players had been sent off, compared with 39 in the same period in 1973...

Coker on loan

Ade Coker, a 20-year-old West Ham United forward, has joined Lincoln City for a five-week loan period...

Gover for Grimsby

Grimsby Town yesterday signed Gover, the 22-year-old Brighton and former Norwich City centre-half, for £16,000...

Fixture changes

Brentford will play their League match at Northampton on January 10, and their FA Cup match at Stockport County on January 11...

Yesterday's results and scorers

Under-23 International Scotland 1-1 England (0-1) 3-1 Whitworth

Littlewoods Pools, Liverpool

The Pool of the Half-Millionaires THE ONLY 8 DIVIDEND TREBLE CHANCE 24 PTS £42,894.65

Sparkle Again sparkles again at Catterick

Sparkle Again, who was laid off for six weeks with a cracked hoof, made a winning return in the Danby Handicap Steeplechase at Catterick yesterday...

Rowing Sponsors sought for 1975 national championships

By Jim Raiton The future of the British national rowing championships will be uncertain after 1975 unless financial support through sponsorship is found...

Richmond decide to drop their former captain

London Scottish have adopted the decision already taken by the club to drop their former captain, Steve Burrell, from the club...

VERNONS POOLS, LIVERPOOL

TOP TREBLE CHANCE DIVIDEND WINNERS SHARE £205,300 FOR EIGHT GOES A PENNY

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Richmond boys' team

The Richmond schoolboys rugby team to meet London Scottish schoolboys at Richmond on January 2 (2.15) is...

Rugby Union Coventry field another weak XV

Coventry are depleted for the second successive weekend by trial calls on their best men and field a side away to Gloucester on Saturday without seven regular players...

A club's claim to greatness that cannot be dismissed hastily

By Alan Gibson Which is the greatest rugby club on earth? A good many claims might be put in...

century of this famous club, is worthy of the occasion; a much more ambitious project than the usual run of club histories...

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Squash rackets Ayton and Verow deserve qualified praise

By Rex Bellamy It is no good pretending that Philip Ayton and Peter Verow, of Britain, can be backed with any confidence against Mohammad Khan and Qamar Zaman (Pakistan) respectively in the semi-final round of the British amateur squash rackets championship at Wembley today...

Rowing Sponsors sought for 1975 national championships

By Jim Raiton The future of the British national rowing championships will be uncertain after 1975 unless financial support through sponsorship is found...

Hockey London University sharp and in better heart

By Sydney Friskin London University's Army O Life's vicissitudes must surely have been forgotten by the small crowd that watched this enjoyable match at Millers Point yesterday...

Rowing Sponsors sought for 1975 national championships

By Jim Raiton The future of the British national rowing championships will be uncertain after 1975 unless financial support through sponsorship is found...

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# Queen agrees to word 'diamond' in King George VI race title

Michael Phillips  
Jockey Correspondent

Their meeting in London last week... the Queen Elizabeth II... the King George VI race title... the word 'diamond'...

The inclusion of the word diamond... De Beers first sponsored what... has now become known as diamond...

It was at a dinner given earlier... to mark the fifth anniversary... of the Cheltenham Gold Cup...



Tip The Wink, winner of the Sharon Hurdle, leads the field over the last hurdle at Towcester yesterday.

### Captain Clover sails through

Captain Clover revelled in the mad to win the Menlo Park Novices' Handicap Steeplechase at Towcester yesterday. The four-year-old provided the 25-year-old jockey, Noel Flanagan, with his first winner as stable jockey to Money Stevens, a position he took up about a month ago. Flanagan has now had 28 steeplechase winners, seven this season, added to which he had a success on the flat.

## Tennis Newcombe makes light of Dibley's service

Sydney, Dec 18.—John Newcombe, the top seed, who is battling to reach peak fitness for next week's Australian tennis championship, easily reached the last eight in the New South Wales state tournament here today.

## Cricket Amis sure to return for Adelaide match

From John Woodcock  
Cricket Correspondent  
Perth, Dec 18

If only this or if only that. It has been that kind of day for the England touring team, thinking of what should have been and regretting what has been. Some of them practised this morning, including Amis, who is sure to return to the side against South Australia on Adelaide on Saturday, and Edrich, who had to give up after 10 minutes because of his damaged hand.

## Weight in favour of Prince Vision

Prince Vision, the 11-year-old, is the smallest field of several 5 at Southwell, starting an hour earlier because of a division, might provide the first finish between the two for the Christmas Tree Handicap in selection.

### Folkestone programme

- 12.45 SELLING HURDLE (€32: 2m 20yd)
- 1.15 HAWKING HURDLE (Div I: €355: 2½m)
- 1.45 WHITELAW GOLD CUP STEEPLECHASE (Handicap: €473: 3m)
- 2.15 SHADOXHURST HURDLE (Handicap: €560: 2½m)
- 2.45 AILDINGTON STEEPLECHASE (Handicap: €452: 2m 100yd)
- 3.15 HAWKING HURDLE (Div II: €346: 2½m)

### Southwell programme

- 12.0 CHRISTMAS PARTY HURDLE (Div II: Part I: 3-y-n: £170: 2m)
- 12.30 CHRISTMAS PARTY HURDLE (Div I: 3-y-o: £170: 2m)
- 1.0 CHRISTMAS BOX HURDLE (€317: 2m)
- 1.30 CHRISTMAS STOCKING STEEPLECHASE (Handicap: €272: 3m 110yd)
- 2.0 CHRISTMAS TREE STEEPLECHASE (Handicap: €272: 2m 74yd)
- 2.30 CHRISTMAS CAKE HURDLE (Handicap: €272: 2½m)
- 3.0 CHRISTMAS PARTY HURDLE (Div II: Part II: 3-y-o: £170: 2m)

### Mrs Court is surprise top seed

Melbourne, Dec 18.—Margaret Court is the surprise top seed for the Australian tennis championships which start here on December 22. It will be only the fourth time since a 12-month lay-off during which her second child was born.

### MCC first-class tour averages

Batting	Mths	Inngs	NO	Runs	HI	Avg
A. W. Greig	6	13	2	56	27*	56.00
W. Taylor	4	6	0	275	152	45.83
D. L. Amis	4	6	2	150	33	37.50
D. Underwood	4	6	0	293	60	60.75
D. Lloyd	4	6	0	293	62	62.75
A. K. Knott	6	10	2	290	79	32.22
K. W. R. Fletcher	7	11	2	179	48	25.37
F. H. Edrich	7	4	0	179	58	25.37
J. J. Timmis	3	3	0	179	48	25.37
B. W. Luckhurst	6	11	0	238	116	21.63
M. H. Denness	6	12	0	206	45	17.16
M. Hendrick	6	8	2	51	21	12.75
R. Lever	3	3	0	29	14	9.66
G. Arnold	5	5	1	17	5*	4.25

### Bowling

Overs	Runs	Wkts	Avg
M. Hendrick	146.6	41	3.56
D. L. Underwood	129	16	25.93
R. C. M. Old	107.2	13	32.07
C. G. Old	107.2	13	32.07
A. W. Greig	170.1	37	37.66
G. Arnold	135.2	17	52.66
R. Lever	89.7	8	55.33

### Rackets

## Key match in colts division involves two left-handers

(Marlborough), tall and free-thinking, plays N. E. Hubbard (Clifton), who wields the bat and Marlborough one each in the last eight of the colts division of the schools rackets' championships which start here on Sunday and Monday. No seed in the New South Wales championships which are currently being played. The Russian Olga Morozova is second seed and Russian Gotsalov of Australia third.

### Table tennis Chinese will play against England

The Chinese table tennis team, who will compete in the international event, sponsored by the British Table Tennis Association, on January 9 to 11, will also play two international matches against England.

### Skiing American dashes Italian hopes of a double

Madonna di Campiglio, Italy, Dec 18.—Skiing the way that has made him current world champion, Italy's Lino Zervas today dashed the hopes of an Italian 'double'—Gros in first place and Tino Pietrangola in second.

### Snow reports

Depth (in)	Wind	Weather
50	150	Good
40	100	Good
30	50	Good
20	20	Good
10	10	Good

### Identical defeat for Oxford

From A Special Correspondent  
Davos, Dec 18

For the third year in succession Cambridge have convincingly won the University Boat Race in the slalom aggregate of the four fastest times clocked by the Cambridge team was 55.4sec ahead of the Oxford crew, a victory margin identical to that achieved in the giant slalom on Tuesday.

### Ice hockey

NATIONAL LEAGUE: Boston Bruins 4, Atlanta Flames 3; St. Louis Blues 6, Chicago Blackhawks 3; New York Rangers 4, Washington Capitals 2.

### Folkestone selections

By Our Racing Correspondent  
1.45 Indian Cottage, 1.45 Bouzouki, 1.45 King Flame, 2.15 Wild Fire.

### Southwell selections

By Our Racing Correspondent  
1.0 Naval Whistler, 1.30 Dad's Lad, 2.0 Prince Vision is specially recommended, 2.30 Silver Bird, 3.0 Mick the Miller.

### Knockroe may be back in action

Knockroe may be back in action next season. He has been in the rear of the pack since October and will have a couple of races over hurdles in the new year.

### Towcester results

- 12.30 CARMEL HURDLE
- 1.15 HAWKING HURDLE
- 1.45 WHITELAW GOLD CUP STEEPLECHASE
- 2.15 SHADOXHURST HURDLE
- 2.45 AILDINGTON STEEPLECHASE
- 3.15 HAWKING HURDLE

### Apprentice has 517 wins

Laurel, Maryland, Dec 17.—Only 10 months after winning his first race, Christopher McCarron, a 19-year-old apprentice jockey, has set an American record of 517 wins in 1974.

### Catterick Bridge

12.45 SELLING HURDLE  
1.15 HAWKING HURDLE  
1.45 WHITELAW GOLD CUP STEEPLECHASE  
2.15 SHADOXHURST HURDLE  
2.45 AILDINGTON STEEPLECHASE  
3.15 HAWKING HURDLE





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WAGE INFLATION GATHERS PACE

Yesterday's latest pay statistics from the Department of Employment fully corroborate, though they do not absolutely prove, the recent foreboding of the National Institute of Economic and Social Research that the pay restraints in the social contract are being reached across a wide front.

to the more than 32 per cent rate of increase in wage rates recorded since July. In addition to the end of the statutory restraints under Mr Heath's Stage Three, there is a what can sanguinely be regarded as a number of once-and-for-all adjustments in pay that should not properly be included in the annualized rate of increase in wages since July.

there is always the difficulty of proving the need for new and disagreeable policies to sceptical half-informed colleagues before all the data are in. But he who stops to look until he is certain always finds it too late to leap, at least in the management of the economy.

IR WHITLAM'S PROBLEMS DOWN UNDER

Gough Whitlam, the Australian Prime Minister, is a welcome guest in Britain though he is believed to be one or two unwelcome guests in his briefcase. His words in Brussels on Britain's membership of the European Community will help Wilson and can disturb only those who still cling to the Commonwealth as an alternative up to that membership.

The Queensland government has not only humiliated Mr Whitlam, it is the most aggressive champion of the states' rights which Mr Whitlam wants to have reduced for which purpose he sent his Attorney-General to Queensland in 1973 with a somewhat brusque demand that Britain end an intolerably outdated colonial relationship.

While the unemployed shout for work, the number of days lost in strikes last year reached an all-time record (exceeding even the 1917 total). Investment by business, hampered by cash flow problems, has slumped, and the decline in business confidence has even given the public fits of jitters.

LARET IS STILL CLARET FOR ALL THAT

Pierre Bert, the wine maker sentenced to a year's imprisonment in Bordeaux yesterday for doctoring and mis-selling wine, has accepted the dictum but intends to appeal against the sentence.

Bert as a reliable witness. But what cannot be denied is that the case has shown up grave defects in the system of appellations, a system whose extension to Britain is one of the less bappy effects of our membership of the European Community.

the absurd statement by one of the defence lawyers that no one can tell good wine from bad. It is certainly bad luck on the wine trade, and the Bordeaux trade in particular, that this scandal should have erupted at a time when wine prices are falling anyway because of the economic climate and the unwinding of the ridiculous speculative positions taken up by so many people.

Threat of economic catastrophe

From The Master of St Peter's College, Oxford. Sir, You argue (December 13) that, in the current conditions, there is no way in the short-to-medium term that the oil deficits or the management of the surplus funds of the oil producers can avert catastrophe in the western economy.

fixed once and for all by international agreement. As for measures, we have seen so far only what the surplus countries can do to endanger the world economy. Why are you so confident that we and the other deficit countries will yet do less?

From Sir Arthur Bruce. Sir, Some months ago you published a letter in which it was suggested that it would be a sign of wisdom on Mr Wilson's part if he were to declare a state of emergency and to follow up the declaration with the measures necessary to contain or moderate the economic crisis which loomed ahead.

Neither does it make any economic sense. There have been several attempts to find out the true cost of transplantation. There is general agreement that this is difficult, but that there is probably little difference between the cost of dialysis and transplantation.

Britain and the Middle East

From Dr M. R. Mehdi. Sir, Your defence of the freedom of political advertising and debate, in your leaders of December 12 and 13, is welcome, but a milestone in the sense that it shows a great minority opinion in the face of organized pressure groups.

the press was intimidated into refusal of the committee's advertisement. While The Times gave up after brave and honourable resistance, the other newspapers surrendered without a fight and a prominent left-wing weekly when the text was already in type.

Transplants: medical reservations

From Professor H. E. de Wardener. Sir, I write about your Medical Correspondent's tendentious article about dialysis and transplantation.

And the majority of doctors find it distasteful and painful to bar a recently bereaved (or about to be bereaved) person to assist in the transplantation of their relative's kidneys for transplantation.

From The Secretary of the Medical Defence Union. Sir, Your Legal Correspondent, Marcel Berlin, in an article on transplants (December 16) "Why doctors refuse to operate", attributes one of the reasons to the Human Tissue Act 1961 by the Medical Defence Union.

The union's views were formed only after a great deal of work had been done on this subject and after expert medical and legal advice had been taken including the opinion of a leading counsel.

Re-marriage of divorcees

From The Bishop of Leicester. Sir, The General Synod of the Church of England has now three times, rightly or wrongly, expressed its unwillingness to go forward towards the re-marriage of divorced persons in church.

Orthodox churches and mainstream of British churches must expect a bishop to say what he has not said seems to me and, I suppose, to Heather Jenner, to be more important. One could hardly expect a bishop to say that God does not join together a large proportion of those who make serious pronouncements to be joined together.

Upeaval in Ethiopia

From Lord Avon and others. Sir, Recent events in Ethiopia, culminating in the execution of large numbers of prominent persons, have created grave personal and financial problems for some of our friends in Europe.

last the public are beginning to realize what is happening in Ethiopia. Consultants to our seriously underfunded Health Service, who have for so long worked under steadily deteriorating conditions, with an open-ended contract allowing an enormous workload with insufficient reward, are now coming out with the facts and speaking their mind.

Terms of NHS contract

From The Secretary of the British Medical Association. Sir, While largely agreeing with Michael Rose (The Times, December 16), I must take issue with his statement that the profession's "negotiating representatives have been exclusively occupied with consultant salaries while the hospital service is declining."

Garbo in slow motion. From Mr Paul Rotha. Sir, In my current reviews of the revival of Pabst's historically important film, The Joyless Street, none of our film critics has referred to the fact that all Miss Garbo's scenes were made in slow motion because of her gauche, immature talent of acting at that time.

Kurdish struggle

From Mr Jeremy Swift. Sir, The United Nations General Assembly Resolution 2236 (XXIX) of November 22, 1974, recognizing the right of the Palestinian people to self-determination, is a welcome step towards peace in the Middle East.

Television and radio cuts

From Mr Patrick Stirling. Sir, Dare we hope that party political broadcasts will take their fair share of the cuts in television and radio broadcasting time to be introduced by the BBC in 1975?

Jerusalem's occupation

From Mr E. R. Linz. Sir, There seems to be a common thread of hysteria in the responses of some Jewish leaders to the General Brown statement in America and The Times decision regarding the advertisement of the Committee for Justice in the Middle East.





LAINING

LOCAL OR NATIONAL CONSTRUCTION SERVICE

THE TIMES BUSINESS NEWS

مكنا من الأصل

LOVELL

for CONSTRUCTION

Thresholds give sharp boost to wage inflation in November

Melvyn Westlake says inflation accelerated sharply last month as weekly packets were boosted by the threshold payments...

Table with columns: Month, 1974, 1973, % change over 12 months, % change over 3 months at annual rate. Rows include Dec, Nov, Oct, Sept, Aug, July, June, May, April, March, Feb, Jan.

consequently triggered that month. The November earnings are thus likely to show some reversal of the downward trend as threshold payments made after August begin to have an effect. But it is also possible that with the downturn in industrial output...

the November earnings are thus likely to show some reversal of the downward trend as threshold payments made after August begin to have an effect. But it is also possible that with the downturn in industrial output...

CBI appeals for crisis warning to workers

By Malcolm Brown Industrial leaders last night issued an urgent appeal to the Government and the trade unions to help them get it across to the man on the shop floor that, unless wage claims are moderated the country could face disaster.

US minister predicts end of official gold price

From Frank Vogl Washington, Dec 18 Mr Jack Bennett, Under-Secretary for Monetary Affairs at the United States Treasury, said it is highly probable that the Administration will propose legislation to Congress next year on a packet of monetary reform measures that will include the abolition of the official \$422 per ounce gold price.

Lord Stokes gloomy about 1975 as BLMC passes final dividend

By Anthony Rowley After losing £16.6m in the first half of its last financial year, British Leyland made profits of nearly £19m in the second half up to September 30. It thus ended the year with a profit of £2.3m before tax.

level. BL has an equity value in the stock market of £351m against this year's highest level of about £360m. BL yesterday rejected what it called the ill informed criticisms which have been made about the Corporation's management below board level.

from the current strike at Triumph, Leyland faced a £16 a week wage claim by workers at the Cowley plant. BL said yesterday that after the oil crisis and the three day week (which caused the interim loss) there had been a "substantial outflow of cash".

Herstatt creditors agree to settlement

Cologne, December 18.—Herstatt creditors have approved an agreed settlement of their claims against the collapsed bank, bringing to a successful conclusion the strenuous efforts to avoid bankruptcy proceedings.

BRS to raise haulage rates by 25 per cent

By Clifford Webb British Road Services, the largest haulage company in the country, is increasing its rates by 25 per cent almost immediately. The move will inevitably lead to a further round of price increases by other haulage firms.

Bowater have stake in finance group

By Christopher Wilkins Banking Correspondent Bowater Corporation has emerged as the holder of a strategic shareholding in Charterhouse Group, the financial and industrial concern which controls Charterhouse, Japnet, a City accepting house.

French buy 500 UK petrol outlet

Five hundred VIP petrol stations in Britain, controlled by Occidental Oil, and a further 200 in West Germany will be sold to Elf, the French oil company, for about \$125m (£10.8m).

British Gas in clash over N Sea supplies

By Roger Vielvoys A row is about to break out between the British Gas Corporation and two French oil companies over delays in the delivery of gas from the Frigg fields in the Northern North Sea.

Arabs pay £4m for Slater stake in Costain

By Peter Wainwright Slater, Walker Securities' 20.7 per cent "long term" stake in civil engineers Richard Costain has been sold. Yesterday it was announced that Slater's £142,373 ordinary shares had gone for 81p or £4.16m to a group of Arab investors who are thought to be long-term shareholders.

OECD has faith in pay policy

Continued from page 1 Other than some action in increase that should not be considered in spite of the unresolved inflation problem.

NFC facing a £10m loss this year

The State-owned National Freight Corporation is heading for losses approaching £10m this year after making consistent profits since it was set up in the late sixties.

Price code widens relief

By David Young The new Price Code, announced yesterday after over a month of discussions between industry and Mrs Shirley Williams, the Secretary of State for Prices and Consumer Protection, contains alterations aimed at improving industrial efficiency and protecting jobs, the Government says.

French deficit down

France's trade deficit in the first 11 months of this year was 16,123m francs (about £1,463m), which means the figure for the year should be well under 20,000m francs, M Norbert Segard, the French Foreign Trade Minister, said.

How the markets moved

Table showing market movements for various commodities and currencies, including Rises, Falls, and Equities remained firm.

French buy 500 UK petrol outlet

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French deficit down

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OECD staff argue that in future some small countries, Austria, Holland, Norway, Sweden—have achieved employment and growth much more inflation than the OECD average, thanks to generous policies. Further analysis in countries such as the United States and the Kingdom owed some of the unfavourable circumstances in which those policies were applied, when some economies were

US payments deficit surges ahead

The United States basic balance of payments deficit shot ahead to its second highest ever level in the third quarter of this year. The deficit totalled \$3,581m (£1,556.9m) against a \$3.51m in the second quarter of \$2,479m.

NVT chief's warning

Mr Dennis Poore, chairman of Norton Villiers Triumph, warned shareholders that time was running out for the British motor cycle industry. Unless a motor cycle decision was taken soon by Mr Benn, there would be no industry left to take a decision about. "The choice is clear," said Mr Poore. "Either public ownership and a three-factor industry or back to the two-factor plan with compensation for NVT."

On other pages

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Financial Editor 19
Financial news 20, 21, 22
Letters 18
Diary 19
Wall Street 22
Market reports 22
Share prices 22

THE POUND

Table showing exchange rates for various currencies including Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Italy, Japan, Netherlands, Norway, Portugal, S Africa, Spain, Sweden, Switzerland, US\$, Yugoslavia.

Standard and Chartered help you with your business in Malaysia

If you have business in Malaysia, the Chartered Bank can offer you a full and comprehensive service with a network of no less than 35 of our own branches and offices to cover the whole country. Each one is ready to help you with the same professionalism and depth of local knowledge that characterises the Bank throughout Asia.

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FINANCIAL NEWS

Slacker growth at Weston-Evans

Conditions continue difficult at Weston-Evans, a Manchester-based machinery maker. In six months to September it slowed to 13 per cent, a gain 54 per cent over preceding 12 months.

The other Vincent directors are not recommending the offer and have agreed not to accept for their personal holdings.

Sutcliffe, Speakman

With a healthy order book maintained since the start of the year profits of Sutcliffe, Speakman rose 19 per cent to £161,000 pre-tax in the six months to September 30.

Interim slide at Fraser Ansbacher

After servicing the loan for the group's interest in C. E. Heath & Co, the insurance brokers and underwriters, pre-tax profits of Fraser Ansbacher are down from £729,000 to £240,000 for the half year.

Share fall by Curtis Stone

The interim fall in profits at Curtis Stone from £148,000 to £100,000 was followed by one £222,000 to £74,000 in the half to give a taxable profit for the year to September 30 of £177,000 against last year's record £370,000.

Mr Maxwell Joseph, chairman of this merchant and investment banking group, says that the group's policy of maintaining liquidity and providing assets has been a success and there is considerable strength in terms of current and future trading.

Bond Worth gains Moderna control

Mountain Securities already out of the running for Moderna (Witney) by its statement earlier in the day that following discussions it had decided not to go further with its 64p cash share for the ordinary only, Bond Worth Holdings, whose agreed offer closed yesterday, announced acceptance for 55.7 per cent of the ordinary and 72.5 per cent of the preference.

Carrs Milling jolted

Carrie-based Carrs Milling Industries reports a big drop in pre-tax profits for the year ended August 31, at £108,000, compared to £492,000. The company which mills flour and manufactures animal feedstuffs, blames inflation and inability to increase prices. The year was described as "by far the most difficult" in recent years.

Issues & Loans

ECGD ship financing

The Export Credits Guarantee Department has guaranteed two separate loans totalling £5.6m which Williams and Glyn's Bank have made available to help finance the purchase of two B26 bulk carriers.

The vessels are being built by Auris and Pickersill of Sunderland for Leon Corporation of Monrovia and Righteous Navigation Incorporated, Liberia and are scheduled for delivery late next year and early in 1976 respectively.

Brazilian funding

An all-Arab underwriting syndicate led by Arab Finance Corporation has completed a simultaneous fixed and floating-rate bond offering of the Brazilian government.

HALMA

Turnover for half year is up from £1.7m to £2.9m, and taxable profits from £101,000 to £153,000. Interim is up from 0.62p to 0.54p, and total of 1.59p (1.4p) plus record results predicted.

Eurobond prices (midday indicators)

Table listing Eurobond prices for various countries and maturities, including columns for Offer, Bid, and Offer.

Commodities

Table listing commodity prices for various goods such as copper, tin, and wheat, with columns for Bid and Offer.

Commodities

COPPER wire bars gained 22 for cash to 160.00-63.00 per kilo. Tin advanced 10 to 162.00-65.00 per kilo. Wheat futures advanced 1/2 to 27.00-28.00 per cwt.

Share fall by Curtis Stone

The interim fall in profits at Curtis Stone from £148,000 to £100,000 was followed by one £222,000 to £74,000 in the half to give a taxable profit for the year to September 30 of £177,000 against last year's record £370,000.

FPE turn-round

Reporting an interim turn-round from a loss of £75,000 to a profit of £27,000 FPE Group say the high cost of bank borrowing and continuing reorganization may produce only a minimal overall profit. Last time there was a loss of £292,000.

Mr Nassar opposed

The formal offer by Mr Edward Nassar for the 60 per cent of the shares of Harry Vincent, Worcestershire confectionery group, already approved has been sent to shareholders. Mr Nassar is a director of the company.

Textile profits falter

Textile profits of Ceston series, makers of sound production equipment and radiation garments, declined to £225,000 in the half to September 30, down from £150,000 in the second half of 1973. Turnover in the half fell from £2.98m to £3.36m.

Afford Carpets loss

In its pile spinning subsidiary in Newry, Ireland, Afford Carpets turned in a profit of £58,000, against a profit of £68,500, for the six months to September 30.

Wall Street

New York, Dec 18.—Shrugging indifference of bad economic news, the New York stock market turned in its second straight

Impressive performance and closed higher in fairly active trading.

The Dow Jones industrial average ended up 5.35 points to 603.49, closing over the 600 level for the first time since December 2 when it finished at 603.02.

Gainers outran losers by about 785 to 610. Volume quickened to 18,150,000 shares from 16,880,000 yesterday.

Table of stock market movements including columns for Date, Stock Name, and Price.

silver closes 13.8 cents up

New York, Dec 18.—COMEX SILVER closed near the same level as the previous day, with a slight gain of 13.8 cents to 60.10 cents per ounce.

CHICAGO SOYABEANS

CHICAGO SOYABEANS—UP Futures closed near the same level as the previous day, with a slight gain of 13.8 cents to 60.10 cents per bushel.

CHICAGO WHEAT

CHICAGO WHEAT—UP Futures closed near the same level as the previous day, with a slight gain of 13.8 cents to 60.10 cents per bushel.

CHICAGO CORN

CHICAGO CORN—UP Futures closed near the same level as the previous day, with a slight gain of 13.8 cents to 60.10 cents per bushel.

Advertisement for Gold Fields of South Africa Limited and Union Corporation Limited. Includes the text 'RECOMMENDED OFFER', 'TO THE SHAREHOLDERS OF UNION CORPORATION LIMITED', and details of the offer including shares and cash.

WAD

KEY-HUGHES

FINANCIAL NEWS AND MARKET REPORTS

Mining
General Mining's 'no' to Gold Fields

General Mining has again rejected the improved bid from Gold Fields of South Africa for Union Corporation and states that the formal documents do not meet the many valid objections raised by the Unicorn board to the previous GFSAs offers.

United Kingdom and South African residents the optimum return possible on the terms. Shareholders can elect by January 10 to receive either extra cash in place of shares which is of particular benefit to non-South African residents, or shares replacing the cash element in the offer which should be to the advantage of South Africans.

The value of GFSAs ordinary shares will be calculated as the average of the cash round-ropes for the five trading days preceding January 9, less 15 per cent. For non-South African residents, thanks to the blocked rand discount, and on the basis of prices ruling on December 13, for every 100 Unicorn, instead of £160 of GFSAs shares, cash amounting to £203 would be paid.

But it must be pointed out that this figure is based on the money being reinvested in foreign securities within six months, otherwise for United Kingdom residents the operation of the dollar surrender rule would reduce this cash advantage to about £185. For South Africans, rather than receiving £120 in cash, addi-

tional GFSAs shares worth £141 would be exchanged. GFSAs has, as is already known, arranged facilities with the Standard and Chartered Banking Group amounting to \$75m, repayable by the end of 1979. Thanks again to the blocked rand discount of about 30 per cent, GFSAs will have to raise around £75m, largely through the sale of portfolio investments.

Discount market

Credit conditions to Lombard Street became very patchy yesterday, and rates fluctuated throughout in reflection of the thin state of the market. The day was marked by a bid for the overnight Bank of England was required to assist the market in a small way, purchasing Treasury bills directly from the houses in need. The day's underlying factors suggested that none of the help was really necessary.

Foreign Exchange

The dollar was mostly firmer against European currencies yesterday, although it was easier against sterling. The dollar's initial rally was based chiefly on a technical reaction to its recent sharp fall and on a rise in Zurich of swap operations by the Swiss National Bank.

Its advance accelerated following unfavourable reports that the French, Swiss, German central banks and Federal Reserve Bank had intervened to support the dollar, but eased back later on news of the wider United States balance of payments deficit. Sterling rose 75 points against the dollar to \$2.3420 while its effective depreciation rate against major currencies dropped to 21.1 per cent compared with 21.6 per cent on Tuesday. Gold declined \$2.50 to \$186.50.

Hongkong commodity exchange move Mr John Wilson, who until recently held administrative rank in the Bank of England's

Economic Intelligence Department has been appointed by General Management (HK) Ltd to draw up a set of rules and regulations for a commodity exchange in Hongkong. When formed he will become president of the exchange.

Soya bean meal futures market for London

It is hoped that a London soya bean futures market will be opened early next year. Mr L. Pullen, the president of the Grain & Feed Trade Association (Gafu), says in his report for the year ended September 30. Delivery points will be in Antwerp, Rotterdam/Amsterdam, Hamburg, and London. The market will be run by a separate association known as the Grain & Feed Trade Association. The trading ring will be in the Corn Exchange. Mr Pullen reports that turnover in the London Grain Futures Market for Soya Bean Meal contracts jumped from 10,000 tons for wheat and from 95,700 to 203,700 tons for barley.

Money Market Rates

Table with columns: Bank of England Minimum Lending Rate, Treasury Bills, Local Authority Bonds, etc.

Authorized Units, Insurance & Offshore Funds

Table listing various authorized units and funds with columns for High/Low Bid, Offer, and Yield.

Insurance Bonds and Funds

Table listing insurance bonds and funds with columns for High/Low Bid, Offer, and Yield.

Forward Levels

Table showing forward levels for various currencies and commodities.

Spot Position of Sterling

Table showing spot position of sterling for various locations like New York, London, etc.

The Times Share Indices

Table showing share indices for various sectors like Industrial, Financial, etc.

Eurosyndicat

The Eurosyndicat index of European share prices was put provisionally at 108.89 on December 17 against 110.80 a week earlier.

Recent Issues

Table listing recent issues of various companies.

Bank Base Rates

Table showing bank base rates for various banks like Barclays, FNCB, etc.

LEGAL NOTICES

IN THE HIGH COURT OF JUSTICE... Notice is hereby given that the above-named company...

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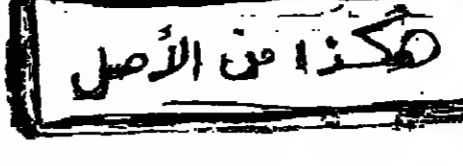
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Stock Exchange Prices Steady tone



ACCOUNT DAYS: Dealings Began Dec 9. Dealings End Dec 23. Contango Day, Dec 24. Settlement Day, Jan 7. Forward bargains are permitted on two previous days.

Main financial table with columns for 'Stock', 'Price Change', 'High', 'Low', 'Company', and 'Price Change'. It is divided into sections: FUNDS, COMMERCIAL AND INDUSTRIAL, FINANCIAL TRUSTS, MINES, INVESTMENT TRUSTS, OIL, PROPERTY, RUBBER, and MISCELLANEOUS. Each section lists various companies and their stock prices.





Motoring

Price rises make a car more attractive

Used in the past year with the rise in the cost of motoring... Money-Saving Motoring... The AA report appeared there has no evidence that motorists have...



New engine for the Consul 2000L.

Road test: Ford Consul 2000L

The two-litre Consul has recently changed engines, the old V4 being finally dropped in favour of the overhead camshaft unit, which was introduced first for the American Pinto...

protruding metal which can cause injuries... The 'eyes' vents at each end of the dashboard work are most effective...

Motoring books

A dependable Christmas present if ever there was one is the Book of the Road published jointly by the Reader's Digest and the Automobile Association...

Motor Show Place advertisement with a car illustration and logo.

Volvo NEW VOLVO advertisement for the Volvo 740 GLE.

RANGE ROVER advertisement for the Range Rover Heavy Duty.

STAC advertisement for the Stac Nov 1973 car.

Director Level advertisement for a secretary position.

MERCEDES-BENZ advertisement for the Ultra Autobahn.

LIQUIDATION advertisement for a car dealership.

MERCEDES-BENZ advertisement for the 450 SLC 'M'.

REPAIRS advertisement for a garage.

SECRETARIAL advertisement for a secretary.

EUROCAR advertisement for Eurocars (London) Ltd.

ROBBINS OF PUTNEY LTD advertisement for a car dealership.

JAGUAR E TYPE advertisement for the Jaguar E Type V12.

CHIPPSTEAD OF KENSINGTON advertisement for a car dealership.

SECRETARY/RECEPTIONIST advertisement for a secretary.

1974 JAGUAR XJ6 advertisement for the Jaguar XJ6.

RANGE ROVER advertisement for the Range Rover.

WANTED advertisement for a car.

ROLLS-ROYCE advertisement for the Rolls-Royce Silver Shadow.

RENTALS advertisement for a flat.

ROLLS-ROYCE & BENTLEY advertisement for the Rolls-Royce Silver Shadow.

67 SHADOW advertisement for the Rolls-Royce Silver Shadow.

REPUTEDLY USED BY PRESIDENT EISENHOWER advertisement for the Rolls-Royce Silver Shadow.

1965 ROLLS-ROYCE advertisement for the Rolls-Royce Silver Shadow.

RENTALS advertisement for a flat.

roadcasting

Christmas is coming. Richard Briers revives Oneupmanship in a festive setting... Vic Feather and others linger over a Yuletide dinner.

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Christmas is coming. Richard Briers revives Oneupmanship in a festive setting... Vic Feather and others linger over a Yuletide dinner.

BBC 2

- 11.00-11.25 am, Play School. 12.00-1.00, The World of 11th Duke. 2.50, Bugs by 3.00. The Forbye.

Thames

- 10.00 am, Out of Town. 10.25, The Bridal Path. 11.00, Bill Travers, George Cole.

ATV

- 10.00 am, Tons of Timber. 11.05, The Great Run. 11.35, Gallipoli. 12.00, Lunchtime.

Granada

- 9.35 am, Woodbridge. 10.00, Thames. 10.25, Pippins. 10.40, Captain Cook's Travels.

Westward

- 10.00 am, Today. 10.30, Crossroads. 11.00, The Six Million Dollar Man.

Radio

- 10.00 am, News. 11.00, The King's Singers. 11.30, The King's Singers.

Yorkshire

- 10.00 am, Hammy Hamster. 10.15, Craftwork. 11.00, The King's Singers.

Tyne Tees

- 10.00 am, Today. 10.30, Crossroads. 11.00, The Six Million Dollar Man.

Scottish

- 10.00 am, News. 11.00, The King's Singers. 11.30, The King's Singers.

Grampian

- 10.00 am, Today. 10.30, Crossroads. 11.00, The Six Million Dollar Man.

Radio

- 10.00 am, News. 11.00, The King's Singers. 11.30, The King's Singers.

SECRETARIAL advertisement for a secretary.

GENERAL advertisement for an office administrator.

BUSINESS SERVICES advertisement for a business service.

RENTALS advertisement for a flat.

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RENTALS advertisement for a flat.

SECRETARY advertisement for a secretary.

GRADUATE GIRLS advertisement for a graduate girl.

TRAVEL COMPANY advertisement for a travel company.

WILL EDUCATED advertisement for a will.

MAKING WRITING advertisement for a writing service.

ENJOY YOUR OWN PARTY advertisement for a party.

LEVELS advertisement for levels.

HOUSE/APARTMENT advertisement for a house.

A LEVEL EXAMINER advertisement for a level examiner.

PRICES AND KINGS advertisement for prices and kings.

SECRETARY advertisement for a secretary.

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HOLIDAYS AND VILLAS MAKE A DATE AND FLY TO THE STATES WITH SOVEREIGN HOLIDAYS

THE AMERICAN CHILD IS HE A MONSTER? Why not find out by spending the summer in a camp...

CHRISTMAS !!! Last minute availability in winter and sunny Malorca...

TURAVIA HOLIDAYS THE EXPERTS IN SPAIN 01-499 4451 (ATOL 5718)

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FLY: IT COSTS LESS FOR SINGAPORE, MALACCA, SINGAPORE, MALACCA, SINGAPORE...

CHRISTMAS HOLIDAY IN TUNISIA from 550. A last chance to join Christmas Special...

WANTING Back your continental travel with a special offer...

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HOLIDAYS AND VILLAS BLUE SEAS AND OCEAN BREEZES

GET YOUR FREE COPY FROM: MILBANK TRAVEL LTD.

WERE NO. 1 LOWEST RELIABLE DISCOUNT SCHEDULED AIRFARES

WORLD EXPEDITIONARY ASSOCIATION 45 Urnham Road, S.W.1

FASHION AND BEAUTY APRIL ASHLEY 50, Knightsbridge from 1-5.30

JAMES REGER under-wear and lingerie at Bonom 50, Knightsbridge

DEAR HELM sold for Annis Fio and conside while in come to the shop...

STANDARD POOL TABLES, 1st class, excellent condition...

OFFERED PRIVATELY, 1st class, excellent condition...

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FOR SALE AND WANT CARPETS EXHIBIT (20-83p per sq. yd)

RESISTA CARPETS London's leading specialist plain, wall-to-wall, etc.

WORLD EXPEDITIONARY ASSOCIATION 45 Urnham Road, S.W.1

FASHION AND BEAUTY APRIL ASHLEY 50, Knightsbridge from 1-5.30

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The Times Crossword Puzzle No 13,872

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

Famous Grouse stands the great test of time. In my youth I preferred it to wine. At forty to gin, And at sixty to sin, And now I'm near eighty, I'm fine!

From: Commander F. B. Proudfoot, R.N. (Ret.), Cambridge.

RESTAURANTS APERIODIC'S DINE & DANCE TILL 3 A.M. enjoy superb entertainment...

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ACROSS 1 Copper pipe (5, 7). 2 Like proplets of the Channel Islands in this time (9). 3 One's right to be troubled by a blow in the face (5). 4 Try the way sound for romantic meetings (6). 5 West Asian men often found in Galway islands (8). 6 As these variations connected with the Sphinx? (5). 7 Moopy, including a little labour, produces this tree (8). 8 Electro-magnetic device converts one back into solid (6). 9 Sound that may possibly scare many (5). 10 Edward's back—so unpunctual—so sad (8). 11 Hastings' Rabbits' home (6). 12 Old English letter found by Rose (5). 13 Turkish leader in Greece, unusually vigorous (9). 14 Another uncommon place? (5, 2, 5).

DOWN 1 We bear Philip took nourishment from a chemist's tube (7). 2 Wanting to be like Caesar's knave under (5). 3 One able to be upset by a careless jibe, say? (9). 4 Fittie's Dickensian name, sake (4). 5 When Mrs Grundy was widowed (8).

RESTAURANTS APERIODIC'S DINE & DANCE TILL 3 A.M. enjoy superb entertainment...

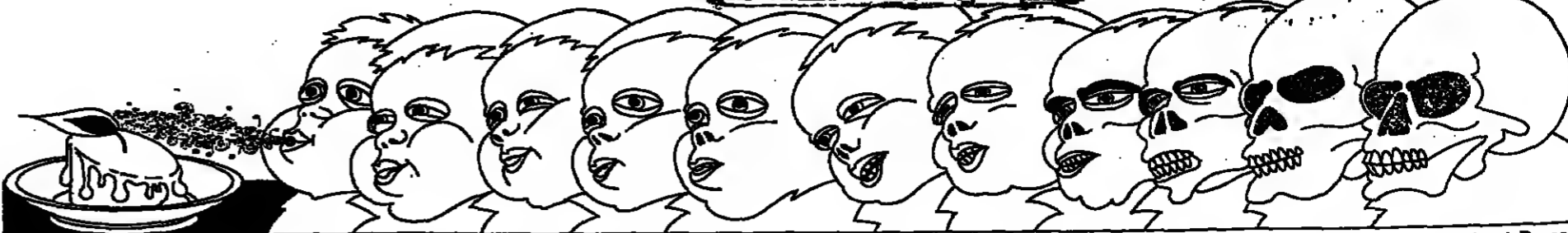
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مكتبة من الأصول

# ENERGY MANAGEMENT

There is a critical relationship between population growth and the world's limited energy supply. The developed nations, generally, have a poor record in the management of their resources for economic growth. This Special Report looks at some of the areas in which savings can be made, the environmental problems arising and new methods of using and conserving energy.



Richard Draper

World is consuming its available resources of oil and natural gas at a rate faster than it can form them. The pressure and decay of resources of tiny marine organisms to form sedimentary basins about the world took million years. In 1859, Edwin Drake made the first modern oil discovery in Titusville, Pennsylvania, and it now seems likely that man will have used these valuable resources in 200 years of this century.

Even though the industrialized nations of the world are burdened by the cost of paying five times as much for their oil, they will be the main beneficiaries of new attempts to coordinate the development of alternative energy sources. For the developing nations the outlook is much bleaker. Many are committed to a programme of development based on the western conception of industrialization and urbanization.

Many nations of the world are not so lucky. They will have to look to their own resources as a base for development. The soaring costs of oil now make it imperative that resources such as coal are developed, but countries already struggling to pay for the meagre amount of oil they consume will find it difficult to raise the development capital. With the short-term recycling of surplus plus oil revenues rightly occupying the attention of governments in industrialized nations there are few signs so far of a world energy policy emerging.

Before last winter's oil crisis energy consumption was moving forward by about 12 per cent annually. Five-fold price increases will undoubtedly stem this advance, but more information is needed on how to function on a lower rate of per capita energy consumption. The first tentative step towards a comprehensive energy policy must be the collection of accurate estimates of the world's resources. Moves are being made to produce these figures in a form that shows exactly how much it would cost to extract them and on this basis calculate the prospects for alternative sources of energy such as solar power, wind and tidal power and nuclear fusion that are now constrained by the economic dominance of oil, gas and coal extracted by conventional methods. Progress has been made in the form of the International Energy Agency. Although this is primarily a 16-nation organization designed to protect the

developed countries against the effects of interruption in world oil supplies there is also provision for cooperation in the development of alternative energy sources. Development is proving so expensive that no country can afford to go it alone and the private enterprise energy companies are finding the investment required to stay in the alternative fuels race such a burden that they are seeking larger and larger government subsidies and grants. On a national basis almost every industrialized nation has taken action to curb demand and most have started at the same point—realistic pricing of energy. The biggest stocks have come in the United States that for years basked in the heat and light provided by cheap indigenous energy. In order to accommodate high priced imports of oil the whole pricing structure has changed. Petrol prices have soared and already the American motor industry is changing to smaller engines, more

economic cars. Combined with continuous appeals for economy, the Americans have begun to mend their wasteful ways. Consumption of petrol, jet fuel, and industrial oil has declined but significantly there have been few savings in the use of electricity. France also provides an example of a country that has taken draconian measures to deal with a lack of indigenous energy supplies and unhealthy reliance on imported oil. A crash nuclear programme for American-designed reactors has been started which will enable the French to phase out many oil-burning power stations. Quotas on imports of oil have also been announced as an added incentive to save energy. Britain, beset by two general elections within a year, has been slow to react and only this month announced a 12-point programme for energy conservation. Lower speed limits, help for industry in insulating their premises and maximum levels for heating in public buildings will have a small effect on oil imports but will be a valuable psychological aid in reminding the public that they cannot slip back into their pre-crisis ways. But the most uncomfortable reminder will come in the form of continually rising fuel bills. Subsidized pricing policies in the gas and electricity industries are to disappear in the new year and people may be surprised to find out just how much it costs to generate electricity in the present energy situation. Certainly they can expect another 20 to 30 per cent on top of the 6 per cent rise in prices that will be introduced in January. Energy saving throughout the world is largely the responsibility of the individual. Governments can legislate to control speed limits, impose hearing restrictions for public places and change the taxation system to encourage the use of smaller cars but in the end if the individual is not prepared to turn down his heating a few degrees and make more efficient use of his car, these government measures will provide only marginal relief. In Britain there is an increasing trend towards the adequate incentive to understand the appropriate cost saving, energy conservation measures and no government action would be needed. But in practice if this condition were fulfilled there would be no guarantee that the response would be adequate. He said that energy consumers in industry and the public were unlikely to take action required unless they appreciated the likelihood of future rises in the price of energy relative to other goods and services and were aware of the uncertainties which surrounded the availability of future energy supplies, and realize the benefits which could accrue from energy conservation. However, consumers were generally inclined to be too much influenced by current prices and often took insufficient account of future trends. Roger Vielvoye Energy Correspondent

## Elimination of the old wasteful ways has become an urgent aim throughout the world

Use of coal, oil, natural gas or nuclear energy to generate electricity is made during the generation phase. This heat is contained in the water used as a coolant, and massive cooling towers have to be built to dissipate this heat so that the water can be discharged into rivers or estuaries. A trip down the River Trent where some of Britain's largest power stations are sited will demonstrate just how much money has been spent on the construction of cooling towers. Waste heat can be used, particularly for home heating. In Sweden power stations are generally smaller and sited and designed to provide home and street heating. Britain's policy of building larger and larger power stations away from centres of population has made it difficult to introduce a similar policy on a wide scale. Bankside and Battersea power stations on the Thames in Central London channel their waste heat into surrounding homes but to channel hot water over any distance requires heavily insulated pipes, and it is generally accepted that it is not practical for distances over 25 km. Long delays in commissioning new 500 and 600 MW generating plant have also held down projected increases in the thermal efficiency of the Central Electricity Generating Board network in England and Wales. Many of the sets that were designed to replace older and less efficient generating units are well behind in the commissioning programme and some of those in service are not producing the amounts of

power for which they were designed. In 1973-74 the overall thermal efficiency of the CEB network was just over 29 per cent, which could have been raised to more than 32 per cent if all the new capacity had been working effectively. Higher efficiency of this magnitude could have saved 10 million tons of coal. The efficiency of nuclear reactors is slightly higher than fossil-fuelled power stations. Like conventional power stations, greater degrees of efficiency can be obtained by utilizing the waste heat. The most likely prospect in this direction appears to be the construction of steelworks close to high temperature reactor units that would make use of the waste heat. One of the greatest aids to efficiency in the generating industry are gas turbines and pumped storage systems that can be switched into operation during periods of peak demand. Electricity authorities grade their power stations in an order of merit. The most efficient, normally nuclear or new coal and oil-burning units, provide the base load, and the less efficient units are brought in as demand rises. Pumped storage involves the pumping of water from a lower reservoir during the night using cheap base load power. The water can be released into normal hydro-power turbines during peak periods. Pumped storage will not come into its own until there is more nuclear capacity in the generating system. Nuclear power stations cannot be turned on and off like fossil-fuelled stations so there will be a demand for their output at night. Fur-

ther economies could be made if additional storage techniques for electricity were available. Gas turbines are useful since they can be started up much quicker than a conventional boiler and generator configuration. But they do require expensive distillate fuel rather than the thicker and cheaper residual fuel oils burned in large-scale power stations. What are known as combined cycle generators are now being developed. The exhaust heat from the gas turbine is fed into a boiler which generates steam for a conventional steam turbine. Several years ago a range of 250-400 MW combined cycle generators were launched in the United States with design efficiencies of between 38 and 42 per cent. Research is being undertaken to produce more efficient gas turbines that would increase the overall efficiency of the units to between 58 and 60 per cent. The coal industry has been given new life by soaring oil costs, and is looking at ways in which further mechanization can be introduced underground. On the surface, pressure is growing for more open-cast mining. Open-cast operations are unsightly and disruptive, but the National Coal Board has proved that it can restore the landscape once mining operations are complete. However, strip mining, as it is known in the United States, has justifiably acquired a bad reputation as a despoiler of the countryside and there are now considerable environmental objections to further tracts being opened up. Oil and gas technology has reached an advanced state of development. Again higher prices make it eco-

nomically for operators to consider greater expenditure on secondary recovery—extracting the large amounts of oil that are left once initial production has tailed off. Way-out techniques such as controlled underground nuclear explosions have been suggested and there is considerable research being carried out into the perfection of most conventional methods. The extraction of uranium is a newer industry and the only one where resources are catagorised in relation to the cost of extraction. Many people within the energy industry feel that this is a concept that could be extended to other attractive industries and could prevent wild estimates of world resources that bear little relation to the cost of obtaining these various materials. R.V.

# How much central heating fuel are you wasting?

## The problem

Central heating fuels are, like most things, more expensive than ever before. In spite of this, a surprising amount of fuel is wasted in many centrally heated homes due to inadequate insulation and a lack of system controls.

To take an extreme example, in a house with no insulation and only basic controls the heat loss could be as much as 50%! But even where insulation is present it is often inadequate for the job it has to do. Treating effective insulation is a whole new science in itself and controls confined to a simple time clock and thermostat are not flexible enough to provide heat exactly when and where it's needed, for maximum comfort and efficiency.

## The solution

Esso's answer to the problem is simple and effective. If you keep the heat in and use it more efficiently you'll save fuel; and if you save fuel, you'll save money. It's as easy as that.

We have extended the Esso Central Heat Wave (covering fuel supply, tailor-made installations, regular maintenance and budget payments) to include advice and help on the installation of fuel-saving insulation and controls. You can see from this advertisement just how much you can save, and how Esso can help you do it.

But what's the world's biggest oil company doing telling you how to save oil? Well, Esso's aim is to provide the best central heating service available. We value our present customers and want to attract new ones. If we can help reduce fuel bills, we hope you will stay with us—or move over to us, as the case may be.

All fuels have increased in price over the past year, and there are likely to be further increases in the future. There is likely to be little if any price differential between fuels for long, so it makes good sense to spend your money on conserving heat.

### Expert advice

There is a host of methods available for controlling heat loss. Only some of them are right for your home. You need expert advice; your Esso Authorised Distributor will arrange for specialists to inspect your home and see that you get that advice.

### Insulation keeps the heat in

Esso know from experience that insulation of the roof and walls is the most cost-effective way to keep the heat in. They know too that ICI produce the unique 'Ufoam Plus' cavity wall insulation and also install roof insulation of the highest quality. So Esso and ICI have teamed up to give you the very best in roof and wall insulation. It's worth remembering that a second-rate insulation is often little better than no insulation at all.

### Start with the roof

Even if you already have roof insulation 1" thick, by having the job done properly (and that means a 3" thickness) you can cut heat loss drastically. £40\* spent here could save up to 15% of your fuel bill.

### Fill cavity walls with foam

If you have cavity walls, foam insulation can give even bigger savings, though it costs rather more to install. Spend £160\* on wall insulation and you can save about 20% a year on running costs; you'll add to the value of your property too.

The best combination of insulation measures for maximum economy varies from house to house. Esso will arrange for advice to be given on the effectiveness of roof and wall insulation in your home.

### Wrap up your hot water cylinder properly

A bare hot water cylinder may be useful for airing the clothes, but it's a terrible waste of heat. A modern thick cylinder jacket can be fitted by most house holders. It only costs about £5, and can easily save £10 a year on oil. Here again, even if you already have a 1" thick cylinder jacket it's well worth getting a thicker one.

### What about double glazing?

Double glazing tends to be rather costly, but it can provide fuel savings of about 10%. It of course gives additional benefits in sound proofing and reducing condensation.

### Controls cut running costs

Extra controls in the central heating system cut wastage and enable you to have heat where and when you want it. There's a big variety available, from simple time switches and thermostats, through thermostatic radiator valves and zone valves (they allow you to vary the temperature in different parts of the house), to the sophistication of a programmer (it gives complete control of radiators and domestic hot water, with many combinations of the two).

### Maintenance means more efficiency, less waste

The regular maintenance of your installation can go a long way towards reduced fuel bills. If the boiler is dirty, or if the adjustment of the burner is incorrect, oil consumption can rise dramatically. That's why a very comprehensive servicing programme using a large force of Esso employees is all part of the Esso Central Heat Wave package.

### Free brochure with all the facts!

Whether you're an Esso customer or not, you can take advantage of this offer. If you haven't got central heating yet, we can give you full details of the Esso Central Heat Wave, and remember, with Esso you get Green Shield Stamps with every gallon of oil you buy! To start with return the coupon and we'll send you a free colour brochure giving more details of the cost-cutting measures you can take. It's well worth a look—clip the coupon without delay. Or simply call your local Authorised Distributor; you'll find him in the Yellow Pages under "Oil Fuel Suppliers."

\*All figures are based on an average 2 1/2 bedroom house.

To: Esso Central Heating, Box No. 2, Feltham, Middlesex.

**Esso**

I have oil central heating and would like to know about insulation and controls.

I am interested in an oil installation.

I am interested in the Esso maintenance service.

Name \_\_\_\_\_

Address \_\_\_\_\_

Tel. No. \_\_\_\_\_

7/19/74

**The Esso Central Heat Wave**

# Poorer nations face difficult days

by Roger Vielvoie

Historically energy consumption has been linked to the level of a nation's economic activity. In 1972 each American consumed the equivalent of 10,928kg of coal. West Germany used 4,299kg and the Japanese 3,353kg a head.

At the other end of the scale, Indians consumed only 204kg and the average of all African countries was 348kg a head. Averaged throughout all countries, the world per capita consumption was 2,130kg.

Of course, there are exceptions. Unfortunately Britain, which has a lower level of economic activity than either Germany or Japan, has a per capita consumption of 5,103kg, an example of a country living above its means.

In a cheap energy world, developing countries could expect a rapid increase in per capita consumption of energy as populations acquire the goods and services associated with western-style improvements in living standards. Certainly the rate of such improvements in the western world will slow down considerably.

Many energy economists feel population growth to be the major problem the world will face in maintaining energy supplies for the remainder of this century and their attention is focused on the developing countries. However, many of these countries use so little

energy that quite large increases in their populations will have little effect on world demand.

On the other hand, zero population growth in the industrialized countries with high per capita energy consumption could play a major part in cutting the soaring demand for energy.

However, as Mr Irwin M. Steizer and Mr Lewis J. Perl, of National Economic Research Associates, told the World Energy Conference in Detroit in September, the relationship between population and energy use is not mechanical, but reflects a host of individual decisions made within a specific social, economic and technical framework.

"Only by understanding the nature of this decision-making structure can we hope to develop estimates of the relationship between population and energy growth of sufficient reliability", they said.

The decision about the appropriate pattern of consumption and production of energy was responsive to shifts in price, income per capita and other aspects of the environment in which they were made.

If the rate of energy usage was underestimated and as a consequence no steps were taken to curtail growth, the world might find itself vitally short of fuel reserves or of clean air and water.

By the same token, if the

rate of usage was overestimated and growth curtailed in response, this could bring a premature end to present economic progress. This offers the best hope for improving living standards in the underdeveloped countries and for alleviating poverty in the developed parts of the world.

Mr Steizer and Mr Perl told the World Energy Conference that to strike a useful balance between the goals of growth and resources, conservation would require projections reflecting a higher order of accuracy and reliability than are now available.

The NERA paper points out two different responses to the problems posed by linking population growth and energy demand. Neo-Malthusians predict imminent catastrophe unless the rate of growth in the world population is reduced substantially within the next 20 years and all acceptable means used to achieve zero population growth.

Opposition comes from the group described in the paper as "technological optimists". These analysts have emphasized the ability of technology to reduce the energy requirements of economic activity, to increase the amount of energy derived from a given amount of fuel, to discover new fuel sources and to mitigate the environmental damage associated with energy use.

Arguments can be mar-

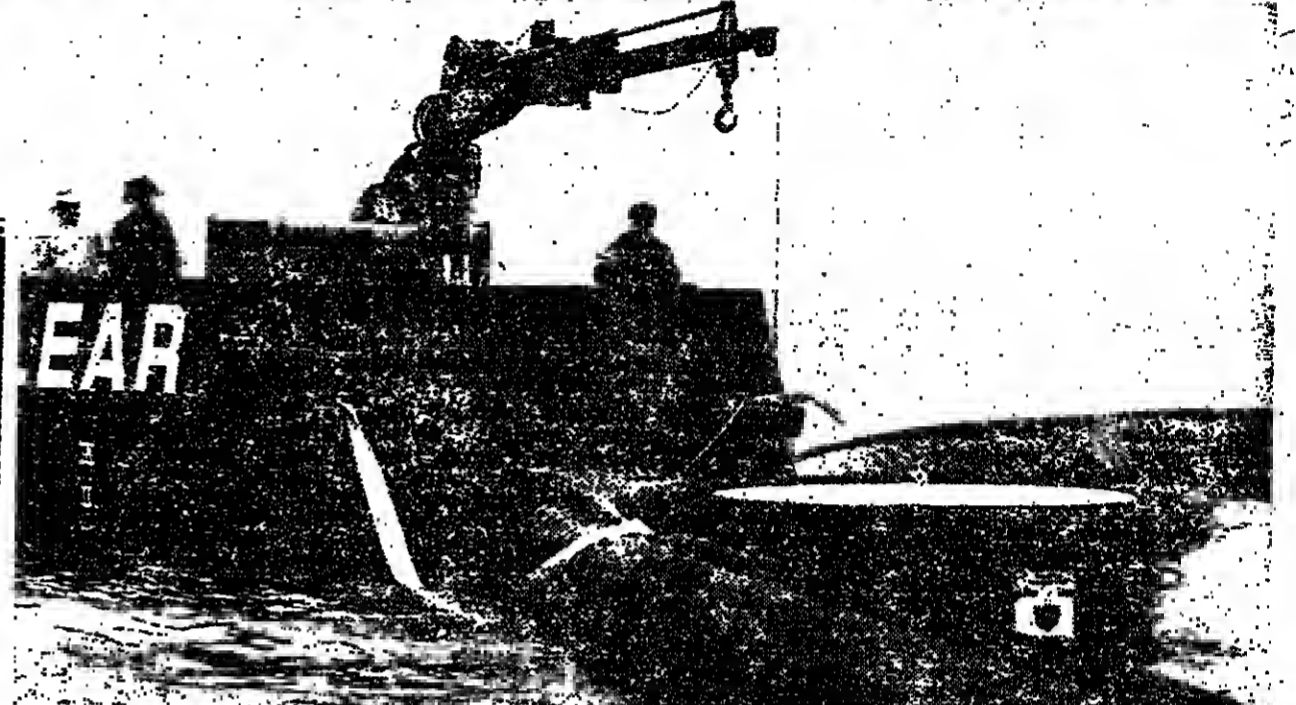
shalled to support both points of view. Between 1920 and 1965, largely as a result of improvements in efficiency, fuel requirements in the United States declined from 149,100,000 to 91,900,000 joules per dollar of gnp. Oil reserves have continued to expand and there are a number of technological innovations of great potential on the horizon. Pollution problems are less easily solved, but nuclear power and the advent of the electric car provide some reason for optimism.

In support of the Malthusian view, it can be shown that energy consumption per dollar of gnp in the United States rose substantially from 91,900,000 to 100,200,000 joules per dollar between 1965 and 1970. Mr Steizer and Mr Perl point out that if this trend reflects the beginning of a decline in the efficiency of energy production, this would weaken the case made by the technological optimists.

They said: "We should disabuse ourselves of the notion that we can resolve the controversy between the Malthusians and the technological optimists by improving our ability to extrapolate past trends in population, gnp per capita, energy use per dollar of gnp, and pollution emissions per joule of energy consumed. Even holding population and gnp growth constant produces a wide range of energy consumption levels."



In Calcutta (above) and New York (right) the crowds are vast but the amounts of coal used are in sharp contrast.



Demonstration of BP's Vikoma system for dealing with oil pollution on the open sea.

# Britain's Coal - A National energy source for at least the next 100 years.

In the light of the enormous growth in world energy demands, coal is likely to be as important a source as ever - if not more so.

We, in Britain, have coal reserves to last 100 years or more. More important still, we're implementing a continuous programme of investment to increase cost-efficiency still further, as well as to maintain supplies you'll need in the future.

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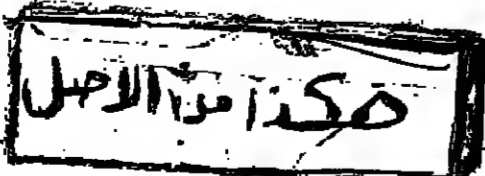
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## How to stop money going up in smoke

by Edward Townsend

British industry is losing hundreds of millions of pounds of potential profits every year - all of it going up in smoke or simply leaking away from inefficient machines and draughty factories.

Industry's conduct in energy conservation seems to have been appalling. A recent survey showed that just by raising the whole of industry's use of energy standards to those of the more efficient firms, a saving of between £350m and £450m a year could be achieved.

Another estimate is that companies could take a 10 per cent cut in energy consumption without loss of output by improving plant efficiency, better use of controls and recovery of waste heat. At today's prices this could mean a saving on the nation's bill of £600m a year.

And the National Industrial Fuel Efficiency Service, which compiled the first set of figures, made the position worse by claiming that this could be attained not by carrying out expensive technological advanced conservation schemes, but "by current known and proved techniques and practices which are financially viable even at today's energy costs".

Further savings could be achieved by a reduction in the frequency of replacing plant, less maintenance and labour costs, improvements to production and reduced pollution.

The chief stumbling block, however, is that production processes invariably claim priority when it comes to investing in capital. On average in Britain, the cost of energy is still only about 8 per cent of the production cost, and the incentive to conserve is correspondingly low.

Energy experts now say, hearing in mind the soaring costs of fuel, that investment in better use of energy gives a return often higher than that on capital and that it can be repaid in the year it is made.

Improved operational procedures, better insulation of factories and machines, recycling of heat from processes, lights and even people, and on a wider scale the reclamation and decontamination of oil, can all pay handsome dividends.

Even a leaking steam valve, of which the average factory has more than a few, can help energy consumption to mount. It is reckoned that many factories are losing steam at the rate of 1,000 lb an hour solely because of faulty valves.

And it seems from various investigations that industrial steam raising in many British factories is still run with about the same efficiency as it was in the last century. Fitting automatic dampers and auxiliary pressure switches can do a lot to conserve fuel and are particularly necessary now that steam, as NIFES says, "really is too expensive to blow to waste".

The energy savings that are judged to be obtainable

in industry from a thorough investigational approach are dramatic. NIFES estimates that the chemicals and engineering and metal sectors could each achieve savings of 13 per cent; paper and printing 17 per cent; ceramics, textiles and leather, food, drink and tobacco, 15 per cent each; other manufacturing industries 21 per cent.

Targets for assessing the performance of production facilities should be set by every firm and in many cases continuous monitoring of processes would appear to be essential. The tremendous upsurge of awareness in energy conservation has led to the flowering of consultants who hire out their skills and experience to do these jobs.

One such firm is the Lancashire based Fuel Economy Consultants, set up eight years ago and now boasting a list of clients extending from Rolls-Royce, Associated Engineering and British Leyland to Woolworth, Trust Houses Forte and Arthur Guinness.

Their role varies from a recent job of helping a large engineering company to modernize its boiler plant for an outlay of £35,000 and which are financially viable even at today's energy costs".

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to 205°C without affecting NIFES, if these energy requirements are not met, the saving on gas will go out of business, worked out at £3,000 a year.

In the long term, the essential industries are likely to survive and those firms which do the best use of the energy resources available to them will come out on top. And the non-essential industries could go to the wall - those which have the right approach to use of energy and greater technical help to prevent waste.

Almost at the last moment the industrialist is beginning to take a fresh look at his energy requirements and give it a true place in his priorities. After all, says able demand."

After all, says able demand."

"I am Private Btu (THE BRITISH THERMAL UNIT) There are about 25 million of me in one ton of coal. My job is to fight for productivity but often I don't even get into action, just die on some fuel dump, go up the chimney in smoke, get done in on a supplyline or blown through the roof. Can you afford this?"

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# Is your power-costly journey necessary?

Michael Baily  
Transport Correspondent

Transport is said to absorb a quarter of Britain's energy consumption, and it is worth asking two questions about the movement of people and goods. First: are all those journeys necessary or even desirable? The second: is it necessary to use so much energy in making them?

The answer to both is usually "no". To most of the life of the sales director, the boss of a firm of 1,000 miles or driving 100 miles a year sounds a nightmare. Yet the pressure to do this kind of thing has been increasing for years, affecting most people in a less spectacular way.

On the basis of cheap transport, itself the product of cheap energy, towns and cities have exploded, and as of communication both within and between nations has lengthened spectacularly. It is no longer remarkable to travel 20, 50 or even 100 miles to work, mainly by car. It is even said to be a fact band who work in London and spend the weekend in Bermuda, commuted by jet, energy-voracious jet liners.

forces that introduce this gigantism into their lives?

More basic question is: has the whole thing been based on a false premise? Has the price of energy, and therefore of transport, been artificially depressed during the past half-century, and if it had not been, how different would our freely chosen life-style now be?

Similar questions arise over the means used to make journeys. Some 60 per cent of transport energy is consumed by private cars. The typical car wastes about 80 per cent of the energy it consumes, and the "clean" cars recently proposed to lessen urban pollution would waste even more.

Before the war, petrol cost the equivalent of about 7p a gallon. Until quite recently it was still only about 20p. At such prices the marginal cost of using a car once bought and in the garage is small. Everyone uses them more than they need, and more wealthy people buy large, voracious vehicles whose consumption of energy and other resources is beginning to look offensively irresponsible.

Moral attitudes were already beginning to be an effect on some people's actions earlier this year. But petrol at more than 50p a gallon and the prospect of paying £1 a gallon or more next year will no doubt have a far sharper one. So what can we expect over the years ahead?

## Wider consumer choice

Shipping lines do very well out of carrying X-cars to Y, and Y-made to X; and the same thing repeated on a far wider scale at a less spectacular level. Dundee-made jam to London and Oxford-made jam to Dundee; Liverpool-made jam to Bristol and Bristol-made jam to Liverpool.

The virtue of all this, it is said, is that it greatly lessens consumer choice, and minimises economies of scale in production, distribution and sale.

Probably true. But do people actually want to travel a distance to shop in a supermarket while their local shops disappear? Do they want to travel a distance to work rather than a nearer home in a suburban town?

Supporters of this kind of progress would say they do. It is a free country and if you do it, it is presumably your choice.

To doubt there are some less or adventurous spirits who do like to be on the road all the time. But are they the majority? Or are they a minority carried along, helplessly, by impersonal forces apparently irresistible?

## Fewer people will own cars

Obviously the rapid rise in car ownership and use will slow down, as is already happening. With petrol at £1 a gallon people will buy smaller cars, use them less, and make them last longer.

Already people are going by bus and train as the cost of motoring rises, and public transport becomes sufficiently competitive in price to outweigh the extra convenience of the car. The trend will gather momentum as central and local government concentrate investment on public transport rather than road construction.

As fuel becomes more expensive and transport ceases to be cheap, the volume of movement of all kinds, not only private motoring, should shrink. The 500,000-mile-a-year salesman will become a rarity (already a rarity), like the car maker, have fallen on hard times) and there will presumably be more Dundee, and less Oxford, jam sold in Dundee.



Solar energy collector panels made by Alcoa Britain are placed in position on the roof of an experimental home at Milton Keynes.

People will tend to work and find their pleasures nearer home (bad for the Costa Brava but good for Bournemouth) and over the longer term towns and cities will presumably stop exploding, and become more compact, companionable places, with more provision for buses, bicycles and pedestrians.

Battery propulsion will become more appropriate because it is clean, quiet and burns alternative fuels at the power station; and as technology advances towards new types of battery it will become even easier and cheaper.

If we are sufficiently daring and determined, new forms of high-speed transport might come in, like a vacuum tube, a U-shaped hole in the ground yielding fantastic speeds for very little energy. And if that seems too advanced, there is always the pony and trap.

# Closer scrutiny for nature's sources

by Kenneth Owen  
Technology Correspondent

Natural sources of energy—the sun, wind, waves, tides and geothermal heat—are being reassessed seriously by electricity authorities. And research towards nuclear fusion as an alternative in fission is being pursued.

What are the prospects for these various alternative sources of energy? As a result of research by the Central Electricity Generating Board the general situation is assessed as follows:

The primary source of energy which makes life on earth possible comes from the sun, but availability does not match need. Yet vast quantities of low-intensity solar energy are available. In this situation the direct conversion of solar heat to electricity is uneconomical in the United Kingdom and is likely to remain so until the end of the century. But the direct use of solar heat for water heating is now just about economic in south-west England and it may become economic for space heating.

The second vast source of the world's energy lies in the wind, which shows a better match with requirements, since the strongest winds occur in winter and in higher altitudes. This wind power may be harnessed directly from a type of windmill or its energy may be taken from ocean waves, which are themselves generated solely by the wind.

The use of windmills would demand some system for storing the energy. Mr Hughes points out, and if such a storage system existed it would be theoretically possible (but probably very costly) to supply the whole of present United Kingdom electricity demands from windmills sited offshore.

Wave power could supply most of our needs for most of the time if a practical method could be developed to harness and store it. Preliminary research has been done by Dr Stephen Sater at Edinburgh University, but the engineering problems are formidable and the economics are speculative.

Tidal power can provide additional energy in certain places. A tidal scheme in the Bristol Channel could, it is estimated, supply about 12 per cent of present electricity demand at a cost which might now be economic.

An almost infinite source of energy lies in the heat of the earth, but because of surface cooling it occurs at great depths and so is hard to exploit. In a few volcanic areas the heat appears at or near the surface in the form of geysers, such as those in New Zealand.

There are also areas such as the Cheshire Basin, the CEGB scientist points out, where it may be possible to tap heat from depths of about 6,000ft hot water which could be used for soil warming or district heating. But for this source to make any real impact on our energy requirements a practical method must be found to extract heat from the

rock at depths greater than about 12,000ft.

The Energy Technology Support Unit of the Department of Energy at Harwell is continuing to assess alternative sources such as these. Research in specific projects is being supported by the Science Research Council.

One SRC project is aimed at developing an "autonomous base" which would be independent of centrally supplied energy services. Initiated by Mr Alexander, CEGB scientist points out, the design of the house is based on the extensive use of solar and wind power.

Space heating will be provided by using collectors for solar radiation, storing the heat obtained during the summer for use during the winter, boosted by periods of winter sun, the council reports. "Wind power will be utilized for generating electricity, with the surplus energy above the capacity of the generator diverted to provide domestic hot water."

Another scheme is for the experimental installation of aluminium energy collector panels for the supply of domestic hot water and central heating at Milton Keynes. Here the aim is to monitor the contribution that solar energy can make towards total heat input and hence to determine the economics of solar heating in domestic houses.

Funded by the Department of the Environment, the system has been designed by Milton Keynes Development Corporation and the Solar Energy Development

panels have been supplied by Alcoa and incorporated heat-exchange fluid which flows through integral passages.

On a much longer time scale, thoughts about the possibility of developing fusion power begin to appear. The sun provides energy by fusing together light nuclei in the sun.

The sun may be regarded as a gigantic fusion reactor. CEGB scientists point out, the heat-exchange fluid which the reacting particles are contained by gravitational forces. Such a system is not possible on earth and early studies concentrated on the problem of containing the hot, ionized gases in a magnetic "bottle".

Twenty years ago it was thought that fusion reactions might be an alternative to the first generation of breeder fission reactors. But progress has been slow, the new field of plasma physics had to be explored. Encouraging experiments in the past few years have led to the belief that demonstration of controlled fusion with magnetic confinement might be possible by the early 1980s. Last year induced fusion is an alternative approach which might prove to be feasible sooner.

Even if scientific feasibility were demonstrated, experts say, commercial generation of fusion power could not begin until many years of testing with experimental components taken place and a demonstration reactor had proved successful. From fission reactor experience, the world could take at least 30 years

# Britain can't afford to waste heat... so we've found a better way to burn gas.

There is a vital need to conserve energy, especially precious natural gas. Which makes the British Gas research programme to find even more efficient ways of using natural gas more important than ever.

The latest product of this research is a new method of waste heat recovery. It involves a new type of burner which combines the function of burner, flue and recuperator. When installed in a production kiln at a Stoke-on-Trent pottery, it replaced eight conventional burners and cut fuel consumption by 30 per cent. In a steel reheating furnace it has produced a fuel saving of 50 per cent.

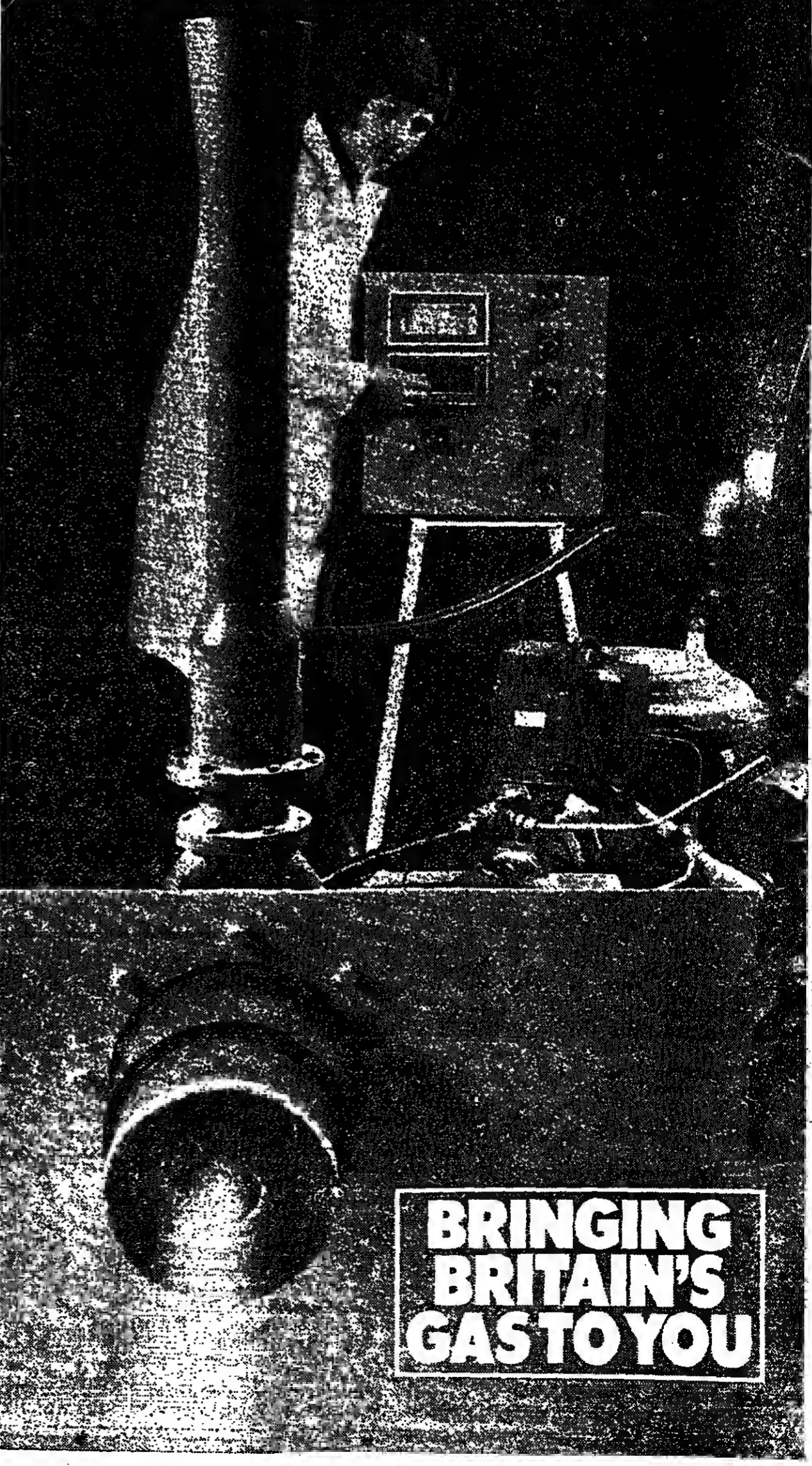
Gas is also making an important contribution to solving Britain's energy problems in many other ways:-

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# Economy drive could put quality of life in danger

certain irony now surrounds the relationship between the conservation movement and the energy producing industries. Conservationists were among the first to point out that modern society's profligate use of finite resources of energy. Their arguments at the time were that the wasteful use of energy resources could bring industrialized society and ecologists who are basically concerned about the quality of life.

Most industrial countries

life are being quietly pushed aside. Conservationist was once the term that covered anybody aware of the problems of waste, pollution and its effect on the environment. More defined categories are now necessary to separate the conservationists (the proponents of economy) from the environmentalists and ecologists who are basically concerned about the quality of life.

now have basic standards for clean air and water but these are not internationally agreed. Standardization would make life easier for the manufacturers of products like ours and there seems to be no reason why the move to standardization should be deferred simply because fuel has become more expensive.

Disturbing signs are already emerging. Britain has suspended its programme for reducing the amount of lead in petrol until a further study on the medical and economic implications of low-lead petrol has been completed. In the short term the suspension was aimed at reducing petrol consumption because the first stage of the programme probably added about £10m to the country's oil import bill. Completion of the programme could add another £50m.

Lead in petrol is a subject full of difficulties. Many authorities feel the lead content in exhaust emissions is not injurious to health. But it demonstrates the dilemma in which governments can find themselves. The short term balance of payments advantage has to be weighed against the possibility, but not conclusively proved, health hazards.

The Americans are under pressure to relax the regulations on all exhaust emissions. Devices designed to reduce emissions also reduce fuel consumption and in many American vehicles they make starting and cold-running operations difficult. But whereas there is doubt over the health hazards involved in lead there are few people who would dispute the adverse effect of car exhausts.

Even oil companies do not dispute that much of the atmospheric pollution in the world is caused by the production of energy or its consumption. But they have not raised objections to calls for the relaxation of strict regulations on the use of high sulphur fuels in American power stations and factories. Regulations have been hard-won and should not be surrendered lightly.

Japan also has strict regulations on high sulphur fuels, and like America has been forced to search the world for low-sulphur crude oil and coal because their existing plants are not equipped to handle the more readily available high-sulphur fuels. This search has driven up the cost of

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**Fill those cavities in the teeth of rising fuel bills**

by Charles Lyte

The high cost of all types of fuel—oil, coal, gas, electricity, even logs, and the promise of more price rises on the way—has introduced a new discipline into domestic acience: the management of home heating.

Cheap fuel in the past has tended to make us a somewhat profligate nation with heat in the home. When the weather grows cold we have met the problem by simply increasing the central heating, switching on another bar of the electric fire, or shovelling more coal into the hearth.

This system works reasonably well, but it is wasteful and now expensive because an alarming amount of that extra heat disappears quite uselessly. Rather than generating more heat, the householder should concentrate on seeing that his home uses heat to the maximum efficiency, and this means keeping it in the building.

In the average house heat loss is absurdly high, with 35 per cent escaping through the walls and 25 per cent through the roof. Fifteen per cent goes in draughts and another 15 per cent into the

ground, while 10 per cent is lost through the windows.

The solution to the problem can be expressed in a word: insulation. Most houses, even modern buildings, are lamentably badly insulated, although new regulations being introduced could alter this position in the future.

However great the draught whistling through ill-fitting doors and windows and the escape of heat through roof spaces, walls and floors, these defects can be remedied and, while the cost of preventing them may seem high at first, the long-term savings in fuel bills will more than compensate for the expenditure.

At its simplest, home heat management need not be particularly expensive and only requires a degree of family discipline. Quite significant savings in heat loss can be achieved by keeping outside doors closed, by using heavy lined curtains and by turning off room heaters when a comfortable level of warmth has been reached.

The majority of new heating systems have time switches and thermostats, and most unequipped systems.

Hot water cylinders should be insulated and heaters are fitted by any reasonably competent handyman.

Accounting as they do for 35 per cent of heat loss, walls are clearly a primary target for insulation. Brick cavity walls should be filled. This is a job that must be carried out by experts who will either use foam or treated mineral wool.

Like so many new home improvement techniques, cavity wall filling has attracted a number of operators who have very limited experience and therefore it is advisable to get quotes from a number of companies. As a result of filling a cavity there is some small risk of water penetration, particularly if the roof is exposed to high winds and rain, or if rubble has been left in the space.

A sound company will give a guarantee against this eventuality, and those companies who do not offer a guarantee should be avoided. Solid brick walls can also be insulated, and this is a job that can be undertaken by a home owner, but probably better left to a builder.

Insulating solid brick walls involves attaching one-inch battens at intervals. The gaps are filled with insulating material, usually treated mineral wool. This is covered by polythene sheeting and the whole enclosed with a plasterboard skin.

The second principal heat leak in the home is the roof. Where there is a sloping roof under slates or tiles, insulation should be laid over the top-floor ceiling. There are a number of materials available—quartz, which are sold in rolls, slabs or loose fill.

For the greatest effect insulations should be laid between the joists, and it must be at least three inches thick. Although the intention is to avoid heat loss, it is equally important to ensure that the roof space is well ventilated.

Provided it is possible to see the slates or tiles, there is no need to worry on this score; but if the roof is boarded or felted, the top-floor ceiling should be lined with a vinyl-faced wallpaper with the joints overlapping, or it should be painted with two coats of oil paint. This will prevent moisture rising into the roof space. Additional ventilation can be provided by drilling holes in the eaves.

Flat roofs require different treatment. One method is to lay a new roof on the existing one. Three-inch thick slabs of waterproof material, such as foamed or cellular glass or extruded polystyrene are set on the existing roof, then covered with two-ply bituminous felt.

The alternative method is to insulate the ceilings of the top floor using the same system as that employed for solid brick walls.

Floors can be treated in three ways. Cracks between the floor boards can be sealed with plastic wood or a warm wax solution that will set, but both are tedious and time consuming.

Aesthetically, the most pleasing system is to close carpet with a good underlay. Alternatively, the floor can be covered with sheets of hardboard, which will take a good polish.

It is important to make certain that the floor cavity is well ventilated, otherwise dry rot may develop. Sponge plastic stick-on draught excluders will go a long way towards reducing draughts from windows, although

double glazing is now a tried method of cutting loss through windows. Meral atrip draught excluders are the most efficient means of curbing draughts, but draught excluders should be used in kitchens or bar rooms, where condensation will cause considerable problems.

The fuel crisis is bringing forward new techniques providing inexpensive heat. There are now boilers on the market that will convert rubbish as well as conventional fuels into heat, but perhaps the most rapid advances are likely to be made in so-called energy.

In this country solar heating is unlikely to replace accepted sources of energy but solar collectors can be installed as a means of supplementing established systems, and so reducing being costs.

Clearly, good insulation the best aid to efficient heat management, and it is estimated that for the average home the cost of insulation should be cancelled out by fuel bill savings within five years of the work being completed.

**Government support points the way for district schemes**

by Patrick O'Leary

"These are stirring times for district heating", someone in the industry said. Lord Greenwood, president of the District Heating Association, is among those doing the stirring.

He told a press conference early this year: "Studies in the United States and other countries have shown that when district heating is employed there has been a 15 per cent saving in energy requirements." He added that more than 300 schemes were in operation in Britain.

In each scheme a central boilerhouse supplies heating and hot water to a number of

separate buildings. Some use warm air ducts, but most have hot water radiators often individually controlled.

Supporters of the system say it conserves energy by using it efficiently. The central boilers can be fuelled by coal, gas, heavy oil, or even rubbish burnt in incinerators. Plants sometimes use a combination of two or more of these heat sources, while low-grade heating can be obtained from hot water produced as a by-product of the cooling process at power stations.

Delivering the Derek Ezra award lecture in May, Mr B. J. Bowden forecast even more flexibility in the future.

"Should we obtain heat geothermally, or from wind, tide or sun, the heat will probably be most easily distributed by a district heating system", he said.

"When coal is used, it can be burnt in larger plants more effectively than in small individual units. The same argument applies to heavy fuel oil, he added.

It is in the case of operations that Britain leads beyond other countries, whose inhabitants are more accustomed to central heating. Power stations produce great quantities of surplus hot water, but are usually a long way from towns. Unless large pipelines serving thousands of homes can be used, most of the heat is lost in transit.

Until the power crisis the Government attitude to district heating was one of benevolent neutrality, ready to give guidance and help, but not to exert pressure. However, Mr Reginald Eveson, Minister for Housing and Construction, told the Commons in the summer that approved schemes received loans to cover capital costs, and such expenditure was eligible for subsidy.

One obstacle has been that where private houses are mixed with local authority estates, councils have obtained special powers to serve them. Otherwise heat and hot water can be sold only to their own tenants.

Mr Arthur Brown, a leading member, said the District Heating Association had asked the Government to give general district heating

powers immediately to all local authorities. He hoped these would be included in early legislation.

"Local authorities would be enabled to sell heat to tenants occupying premises not owned by the authority, either domestic, commercial or industrial", he said. "They would be able to lay or repair district heating mains."

In spite of the difficulties, many councils have gone ahead in recent years, and they are getting bigger. At Rowlands Hill, Leicester, the scheme includes 22-storey blocks of flats; at Edmonton Green, North London, a coal fired system serves home, a swimming pool, shopping centre, and commercial and office buildings.

**New towns offer most scope**

New and expanding towns offer most scope. At Bretton township, Peterborough, work began three years ago on a comprehensive scheme. By 1977 4,000 homes, 900 of them privately owned, should be connected. The heat is natural gas, obtained on a long-term contract when energy was cheaper.

Rochdale has installed district heating in modernizing council dwellings built in the 1930s. Eventually, 5,000 homes will benefit. Battersea power station, London, uses waste hot water to warm homes in Pimlico.

Heating worth £500,000 a year will be provided by a station to housing along the Thames.

Nottingham officials are cooperating with the National Coal Board in a project of special interest. Estimated cost is £7m and the scheme will cover some 17,000 premises when completed in 1980. Another feature is that heat is provided in a number of ways.

Incineration of domestic and industrial waste produces steam, which in turn generates electricity. Waste heat from the electricity process, with additional warmth from the refuse and from a coal-fired boiler combine to provide central heating.

At Lisson Grove, Marylebone, incinerator heating has been carried farther. A pneumatic refuse conveyor takes rubbish along underground pipes from homes to the boilerhouse.

District heating has had teething troubles, and when a system serving 1,000 homes develops a fault, complaints flow freely. To guarantee continuous supply, it is often better to use two or three small boilers than one large one. A large boiler can also be noisy in early stages of a scheme, when it is throttled down to serve a small number of homes.

Nor is it cheap; at Bretton, full central heating and hot water for a three-bedroom terrace house costs £195 a week. But the rising cost of heating by other means affects comparisons.

Price sensitivity also involves controversy over whether each home should be metered and charged for heat and hot water used, or whether the bulk cost should be met entirely by standing charges. Those who oppose metering say it is not always accurate, and involves the expense of meter reading and invoicing. Another argument is that the people most likely to economize on heat are those who need it most, the

elderly and mothers with young children.

Meter suppliers retort the tenants will only conserve energy if by doing so they save money. In addition, running expenses, capital costs can be cut if it can be assumed tenants will overload the system.

Some councils which initially relied on fixed charge have since installed metering. These, mostly working by evaporation, are attached to radiators and to hot water cylinder pipes.

In addition to providing money for district heating the Government has backed experimental work, including some carried out by the Heating and Ventilating Research Association. Local authorities were recently asked to provide information about individual schemes.

The Department of the Environment has gone into the business itself. Its Property Services Agency has installed district heating for bus garages and houses occupied by British Service families a Wildecroft, in West Germany's Rhineland.

District heating came into the energy conservation study published by the Central Policy Review Staff in July. The wise men came to the predictable conclusion that they do these things better—and faster—a broad, and that there is a very real need for more information in this field.

However they did say the four million dwellings could be connected to simple schemes by the end of the millennium. This would be about four or five times the number served at present. The policy review staff thought burning refuse was unlikely to become of major importance in district heating.

But it has been said that during hyperinflation in Germany 50 years ago it was cheaper to burn marks than coal. If oil and coal prices continue to escalate we may yet feed recycled petrodollars to our boilers.

**Quality of life could be in danger**

continued from page III

low-sulphur fuels and has contributed indirectly to the tightness of world oil supplies that enabled the Organization of Petroleum Exporting Countries to push up prices.

So far no organization has been prepared to put a value to the community on clean air and water. Without this figure it is impossible for energy producers, under the present system, to earmark capital for fuel quality improvement projects. There is the continual fear that without regulations or a clear indication that the public is prepared to pay for a cleaner environment, the higher quality fuels might not be able to compete in the market place.

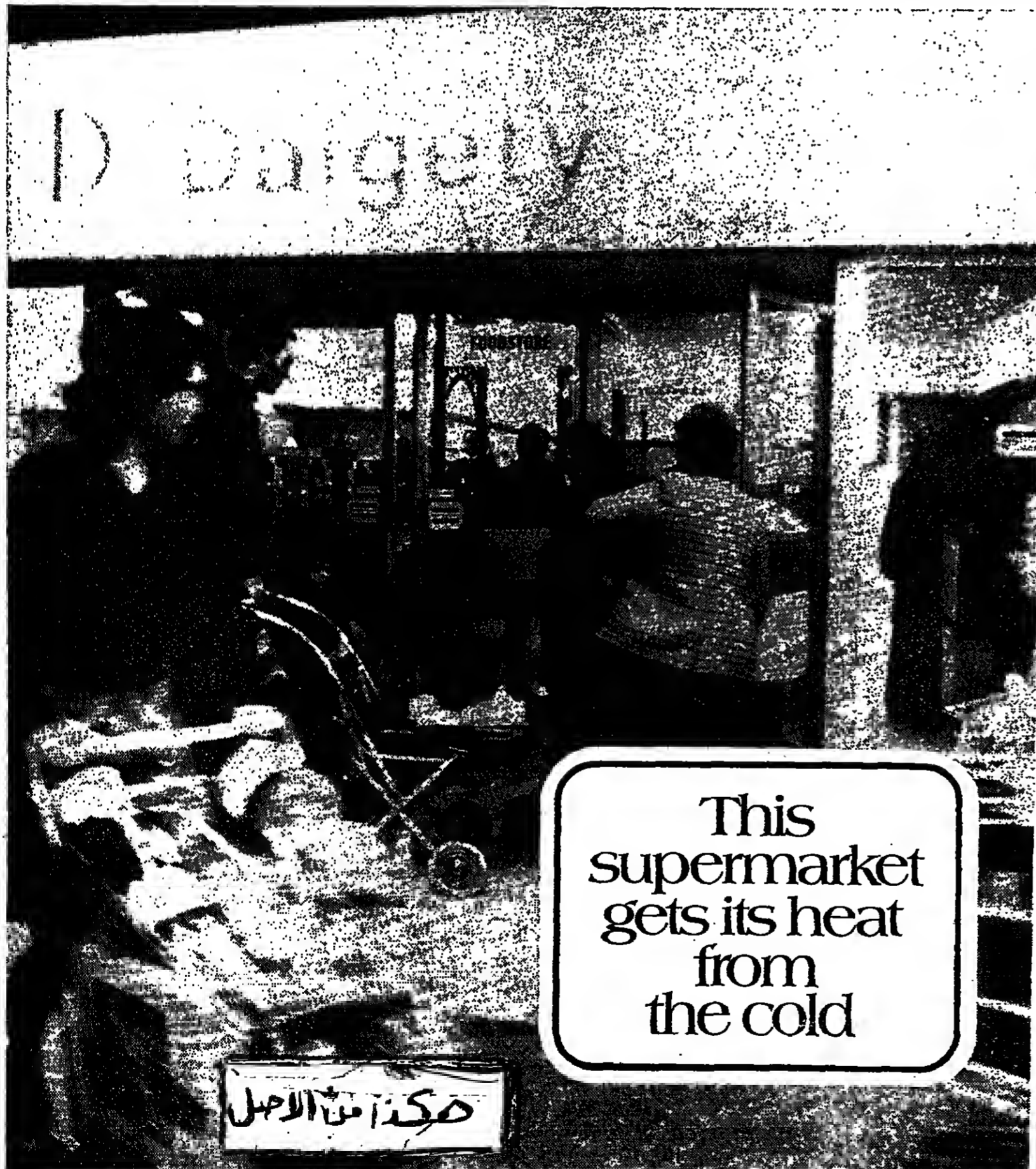
Environmental groups have had a number of major successes and have influenced the way in which several important energy projects have been designed and will be managed. The long battle over the Alaskan pipeline produced a scheme that is vastly superior, from an ecological point of view, to the original proposals made by the oil companies.

But the validity of environmentalist objections is not always so easily recognized. The uncertain safety features of light water reactors in the United States have provoked groups into lengthy delaying actions on individual projects that ultimately hold back the ability of industry to switch to non-polluting electrical power for processing, and affects the future climate for the electric car. Neither of these changes can be achieved without nuclear power.

Environmentalists do play a valuable part in focusing attention on the real dangers caused by radioactive waste from power stations. Plutonium, one of the waste products, has a half life of 200,000 years.

The greatest test of man's willingness to destroy the environment in order to maintain his present way of life could come with plans for the development of shale oil in America. Squeezing oil from shale rock leaves a residue of powdery ash that is greater in volume than the original shale rock.

An American Government report admits that unlocking the massive shale oil



**This supermarket gets its heat from the cold**

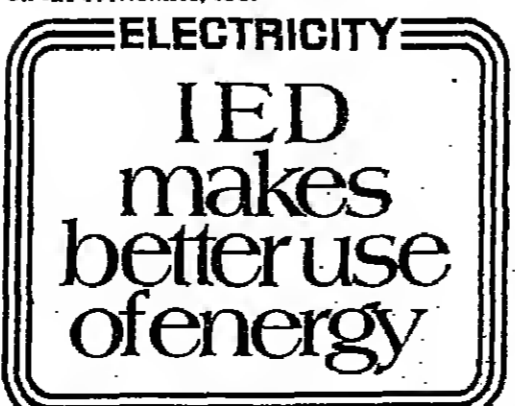
In this frozen-dairy supermarket—the new Dalgety at Langney, Eastbourne—much of the heating to keep the shop at a comfortable 68°F comes from the refrigeration plant. The remainder comes from the lighting and the customers.

a building, through the latest advances in air extraction and distribution. The new Dalgety Supermarket system designed by M. E. C. Bird, Sons & Associates, Consulting Engineers, achieves this by collecting the heat from its lighting and refrigeration plant and distributing it to sales and basement areas, through high-level wall-mounted glass-fibre ducts. Running costs of this system are minimal, no more than the power consumption of the supply fans which average 1 to 2hp.

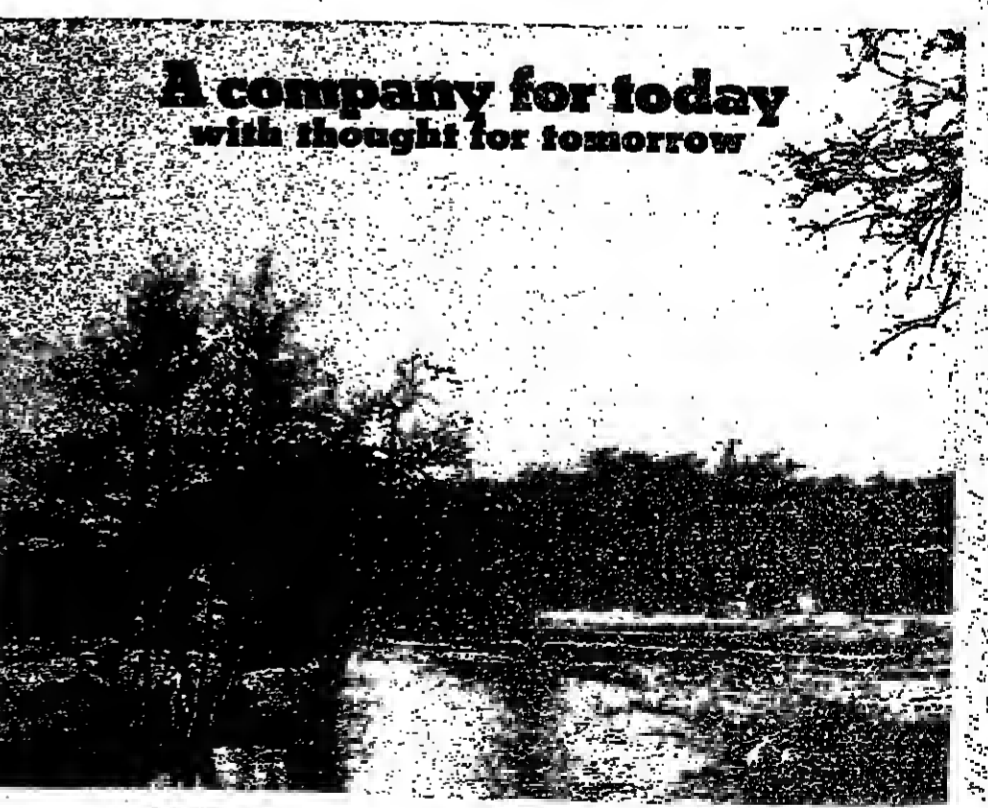
**Energy Management** This means energy control at its most effective; and represents many of the energy-saving features of IED—short for Integrated Environmental Design—whereby a building can combine good quality lighting and a high level of environmental comfort—with acceptable capital, low maintenance and no heating costs.

Ask your Electricity Board to tell you more about IED and to work out the energy-

requirements on your building project. They have the knowledge, experience and computer services to give you a balanced appraisal, not just on technical questions, but on the economics, too.



The Electricity Council, England and Wales



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**energy**  
Whether we produce our energy from oil, gas or coal, the products we manufacture are to be found in the exploration, production, storage and distribution of our natural resources. This is a true also of electricity and continuous power. Our involvement starts at the wellhead, in pipeline process plants, in the refineries and in the distribution of the products to the consumer.

**environment**  
The products we manufacture are to be found in the exploration, production, storage and distribution of our natural resources. This is a true also of electricity and continuous power. Our involvement starts at the wellhead, in pipeline process plants, in the refineries and in the distribution of the products to the consumer.

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